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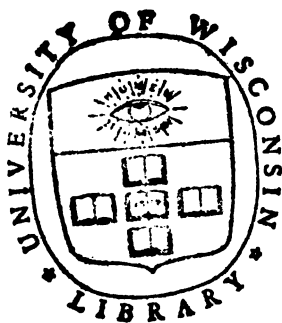
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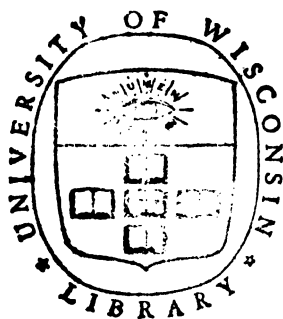
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Veterinary Clinical Notes

BY

MART. R. STEFFEN

M. D. C., V. S.

Author of "Special Veterinary Therapy,"
"Special Cattle Therapy," "Clinical Dia-
gnosis of Cattle Diseases," "Special
Equine Therapy," "Best Paying Prescript-
ions," "The Itinerant Horse Physician";
Editor, Therapeutic Digest Department,
American Journal of Veterinary Medicine,
Etc., Etc.

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INTRODUCTION

In the treatment, as well as in the diagnosis, of pathological conditions in the domestic animals it is a fact that not infrequently a single clinical item gives the clue to proper handling of the case.

In other instances minor clinical points, when given appropriate consideration by the attending veterinarian, can have much weight in bringing a given case to a satisfactory end.

In the following pages such clinical items and points of practical value are presented in "nut-shell" form.

Only such matter is given as has been found of worth in the practice of the author and other veterinary practitioners.

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MORE important than anything else in the treatment of a case of **paraphymosis** in the horse is appropriate suspension of the organ.

1

The most practical, and also the most satisfactory, method of supporting the organ is carried out with the aid of a section of roof gutter. If the latter is not available a piece of tin 18 inches long and 10 inches wide is bent in the shape of a trough or gutter, a number of holes punched along the edges. Tapes or bandages are tied in the holes and the trough padded with cotton. With the organ reposing therein it is suspended close to the belly by means of the bandages or tapes encircling the flank.

The organ must be kept thus suspended until the swelling has gone down to such an extent that partial retraction within the sheath is possible. Swelling persists longest in the true sheath, just above the glans peni. Disappearance of this swelling can be considerably hastened by applying gentle massage, cold water douches, and further suspension. Throughout the course of the treatment the animal must be lightly exercised.

In some obstinate cases good results follow forcible imprisonment of the organ in the sheath. This can only be resorted to, however, when most of the swelling has disappeared.

After gently kneading and massaging the organ it is slowly and firmly forced into the sheath. A large wad of cotton or a gauze pad is placed and firmly held in front of the orifice by means of tight bandages encircling the animal's body.

The organ is allowed to remain thus imprisoned until the animal becomes uneasy. In some cases a few hours bring on restlessness, while in others the organ can be thus retained a whole day without inconvenience.

The procedure is repeated daily, until complete retraction is possible.

The **stethoscope** is a diagnostic instrument that veterinary practitioners do not make enough use of.

2

A good stethoscope does not only intensify sounds; it also accentuates characteristics of individual sounds.

To become proficient in the art of interpreting intensified and accentuated stethoscopic sounds requires prolonged practice. Once acquired, however, this proficiency makes for confidence and accuracy in both diagnosis and prognosis.

Examinations for soundness can hardly be thorough unless the

stethescope is brought into play. Hidden or obscured, by drugs or other causes, pulmonary emphysema is easily detected. Incipient pulmonary emphysema can hardly be demonstrated by any other means.

Hidden, latent, and controlled lesions in the thoracic cavity can nearly always be "spotted" by means of a good stethescope properly applied.

Prognosis of abdominal diseases, such as impactions, is made more nearly positive when the stethoscope sounds are intelligently interpreted.

It is very gratifying to appreciate the confidence which the use of the stethescope instills in the practitioner who has become proficient in its application.

For the beginner in the use of this instrument there are two rules which he must obey if he would acquire any degree of proficiency. They are:

1. Buy the best stethoscope that you can afford.

2. Take every opportunity to apply the stethoscope in normal animals. Become sure of normal sounds first.

In mares a solid adhesion between the placenta and the uterus can be demonstrated in practically every instance in which the uterus is pathologically everted in these animals.

3

The adherent area is usually only a few square inches in extent, and the contact between the mucous coat of the uterus and of the placenta is often so intimate and firm that the placenta can be picked off only with great difficulty. The great weight of the equine secundines pulling upon so small an area of the organ plays a great part in its eversion, and it can be said with reason that **uterine prolapse in the mare** is nearly

always the result of such adhesions.

When eversion of the uterus follows a case of dystocia that the practitioner has attended, he should in every instance make it a point to find this adherent area.

By finding and demonstrating this to the client he can usually explain away any blame that the client may attach to him in connection with the eversion.

In a few instances which came to my attention in my own practice this adhesion of placenta to uterus has been so firm that I have not found it possible to separate them without damaging the mucous membrane. In other instances the adhesion, while quite firm, permitted of a cleanly removal of the placenta but resulted in a hemorrhage from the area. This hemorrhage is not usually very serious, although I have had a few

cases in which it caused me some worry.

In **bovine choke** do not forget that the object may be regurgitated and expelled through the mouth.

4

Even a thoracic choke in the ox may terminate in a spontaneous manner by regurgitation of the offending object.

It is therefore not always the best judgment to aim solely at a downward or stomachal expulsion of an obstructing agent in the esophagus of the ox, and a probang should never be brought into play until an effort has been made to bring the object back by regurgitation. Only when it has become quite evident that regurgitation is out of the question has the surgeon a right to resort to the use of the probang.

5

Watch the cow that gives birth to a **large calf**. Especially if it is her first calf.

It is a good policy to instruct the attendant to remain with such a cow at least three hours following the parturition, and to take such steps as you may recommend for the avoidance of a uterine prolapse. It is during the first three hours following a parturition that the danger of uterine prolapse is greatest.

In my own practice I make it a rule to give these patients a large dose of morphine, and the attendant is instructed to use ordinary means to prevent straining. The most practical and the most simple of these methods consists of elevating the hind quarters by means of manure and straw thrown under them after the cow has been so confined that she can not move from side to side.

Another very satisfactory check

to straining, especially in very nervous heifers, is obtained from an occasional dash of very cold water directly onto the external genitals. Several quarts of water are to be dashed forcibly against the parts whenever the patient assumes the position for straining.

Due allowance must be made for such expulsive efforts as may be made in these cases when the fetal envelopes are to be expelled. Such efforts differ, however, from the straining preceding the eversion of a uterus, and the differentiation is easily made even by one untrained in obstetrical procedure.

In the handling of a **collapse under chloroform** there is a simple remedial measure that is not generally known or practiced. This is the dilatation of the rectum, a measure that the surgeon can well afford to bear in mind. Its effect is frequently so prompt and so

evident that it is really astounding.

The dilatation can be accomplished in any practical manner. In small animals a hard-rubber thermometer case, with the closed ends cut off, is simply inserted into the rectum. In the larger animals a rectal or a vaginal speculum is the best.

In my own practice. I have seen some fine results from this practice. Animals which, despite the usual methods, were in danger of "going under" permanently, have been promptly revived when dilatation of the rectum has been added to the usual efforts at resuscitation.

7

Veterinarians who do not do much cattle practice frequently have trouble in **inserting the thermometer in the rectum of cattle.** The thermometer enters easily enough for an inch or so, but then

its entrance is impeded; and only after a considerable amount of maneuvering does the instrument slide into the rectum to the proper distance.

The way to avoid this trouble, and the proper method of taking the rectal temperature of cattle, is as follows:

Rest the bulb of the thermometer on the extreme upper border of the anus, holding the instrument firmly, so that when it is forced inward it will glide along the superior margin of the anus and the roof of the rectum. No obstructing folds of mucous membrane are encountered here, and the instrument slides easily into place.

8

Many methods for **reviving newborn** calves and colts are in vogue. The calf or colt that is delivered with difficulty usually requires an application of one or more of these methods, and it is always gratifying to both client and practitioner to note their effect.

For more than ten years I have used only one method in handling these subjects, and from contact with several hundred cases I can recommend that method without reserve.

My method consists of the simple procedure of grasping the calf or colt by the hind feet and swinging it back and forth, with head hanging low, five or six times.

If the youngster is too clumsy or too heavy for me to handle the attendant grasps one foot and I the other; standing close together we then swing it between us, or before us.

In all new-born calves, but especially those born in breech presentation, the mouth and the pharynx are found filled with tenacious mucus. It is always a good plan to remove this, using the bare fingers for the purpose, or else a cotton wad. This mucus is very sticky and can usually be removed with the fingers alone.

Partial rectal prolapse, usually termed **piles, in pigs** is never a serious condition, yet it may cause the practitioner some worry until he finds a treatment that will give prompt relief.

9

One large dose of sodium bicarbonate puts an end to the condition, and if the diet is then properly adjusted there is no recurrence.

I aim to give a full teaspoon of the soda to every fifty pounds of pig-weight, dissolving it in a small quantity of water. If for any

reason it is not practicable to drench the pigs with the solution, the bicarbonate of soda can be mixed with the feed, and just as good results obtained.

Local treatment is not needed unless the parts have been bruised. Oily antiseptic preparations may be lightly applied when bruises or abrasions are present.

10

There are some cases of **chronic bloat** in cattle that are due to stomach fluke, called the amphistoma cervi. These parasites will be found lodged in the neighborhood of the esophageal groove. They are of about the size of a large kernel of wheat and have a delicate pink, naked appearance.

Cases of chronic bloat due to this parasite are usually found in cattle that graze on wet pastures, and a pasture once infected usually remains infected for years.

The symptoms that the animal presents are not easily differentiated from chronic bloat due to other causes. The bloat is at first moderate, but occurs with regularity after each feed if the animal is stabled. If the animal is on pasture the bloat is more or less constantly in evidence.

As the infestation with the parasites becomes more extensive the cases ultimately take the form of repeated attacks of acute tympanites. While these attacks are submissive to the usual treatments for tympanites their effect is very transient. When the animal again partakes of feed the bloating again appears.

When the stomach fluke is diagnosed as causing the bloat, or if there is cause to suspect the parasites' presence, the treatment should, of course, be aimed at their destruction and removal. Ordinary vermicides are not to be de-

pended upon for this purpose. So far as I am aware there is only one reliable medicinal agent at our disposal in the handling of these cases, and that is oil of turpentine.

One large dose, usually half a pint, suspended in an equal amount of cottonseed oil gives good results. No doubt there are other medicinal agents that will rid the rumen of these parasites, but I have not yet found them out.

Turpentine is cheap, safe and sure, and its results could hardly be surpassed.

After-treatment consists of an entire change of feed. If the animals have been on pasture they must be removed to other grazing fields.

In my experience the cattle that have suffered from chronic bloat, as a result of infestation with the stomach fluke have all been young cattle, from one to four years of age.

*

Also, the cases have been confined to herds of cattle in a certain district that is inundated once or twice annually. Not one case has come to my attention outside of this district.

Cattle that have access to water in swamp holes may develop some obscure abdominal symptoms that usually defy diagnosis.

11

I have found it good practice to aim the treatment at the **liver** in these cases.

If the patient is very carefully examined a degree of icterus will be discovered in the visible mucous membranes, and in a few cases the liver region gives evidence of tenderness on palpation. In some cases the posterior border of the liver can be plainly felt, extending beyond the costal borders, rounded and thickened.

Complete abstinence from food, water ad libitum, and mild evacuants bring the case to a speedy and satisfactory end.

As after-treatment a course of intestinal antiseptics, extending over a period of four or five days, is indicated. Salol or sulpho-carbonates give the best results.

12

Tenesmus resulting from irritation in the large intestines and in the rectum is a complication of some affections that may cause the practitioner much worry.

In coccideal dysentery, for instance, tenesmus is in some cases the most aggravating symptom, persisting for days after other manifestations of the disease are in abeyance.

For the control of troublesome rectal tenesmus I have found nothing better than enemas of very cold water.

Their effect is immediate and sufficiently prolonged to make their administration well worth while. Furthermore, they can be given by an attendant as often as the case demands.

Cold water enemas will often stop rectal straining when morphine has no effect, especially in cattle.

In a recent enzootic of **coccideal dysentery** I was able to obtain some fine results from the use of **quinine-urea hydrochloride**.

13

The dose used was four grains hypodermatically, repeated once a day, as long as the symptoms required it.

In many cases a single dose sufficed to effect a complete cure. Hardly ever were over three doses required.

Just in what manner this drug acts in this condition I am not

prepared to say. My reason for trying it in this disease was the success with which the drug is used in the treatment of malaria. While there is no pathological comparison between malaria and coccideal dysentery, there are some similarities from a clinical standpoint, chief among which is the icterus that is so marked in some cases.

14

In some cases of **coccideal dysentery** of cattle the blood appears in the feces only in the early stages. The diagnostic sign, in such cases, after the blood is no longer present are the air bubbles which are present in the feces in great numbers. These vary in size, but hardly ever exceed that of a pea.

In other cases blood is passed throughout the attack in clots.

In some of the most serious cases only slight amounts of blood

are seen in the feces in the early stages. Toward the end of the attack, however, almost pure blood is passed. Much straining accompanies its passage. In all cases there is a very characteristic odor. This odor can best be described as cadaveric.

In some forms of jaundice icterus is visible only in the oral mucous membranes. I have encountered a few cases in which the conjunctiva was quite normal in color, while the membranes lining the buccal cavity were a bright greenish-yellow.

While no satisfactory explanation can be given for this, it nevertheless remains as a clinical fact.

In the cases just named good results were obtained from the administration of Fowlers solution of arsenic, after a purgative had first been given. A few days of the ar-

senic treatment was all that was required.

In other forms of jaundice arsenic has not been found of benefit.

16

While the treatment of pregnant mares with mixed bacterins does not always prevent navel disease in the off-spring, its administration is well worth while for the effect which it has on the virulency of the disease when it does affect the colt.

Navel disease in colts from mares that have been treated with mixed bacterins during the latter part of their gestation period, is usually very mild and not accompanied by any of the serious complications so common in this disease.

My method of treating the mares is to give a full dose of mixed bacterins sixty days, and

another thirty days, before the date of parturition.

In my opinion it is very essential that the bacterin include a strain of the colon bacillus of equine origin.

An **aloes pill**, or "ball" as it is usually called, must be hard to act satisfactorily.

17

The aloes pill that consists of loose powdered aloes in a capsule can not be relied upon for results. On the other hand, the solid, hard pill that is made from a properly mixed mass can be positively relied upon if the dose is properly graded and the pill properly administered.

The action expected of aloes is usually that of a purgative, and this action is exerted almost wholly in the intestinal tract. A loose, pulverized capsule of aloes opening in the stomach dissipates a

great portion of its energy ; what remains exerts only a small degree of action when it enters the intestinal canal.

A hard, solid, and slowly disintegrating aloes ball, properly made from a good mass, enters the intestinal tube almost without any change. Its firm consistency causes it to remain in the intestine long enough in an active form to permit its full physiological action to be exerted.

The satisfying, thorough purge that is obtained from aloes in horse patients is not easily obtained from any other medicine. It is chiefly because of the pharmaceutically elegant, but physiologically inactive, aloes pill supplied by our pharmaceutical houses, that purgation with aloes is not as popular as it was a few years ago.

Veterinary practitioners should demand hard, solid aloes pills

made from a suitable mass. If these can not be obtained through the supply house, it behooves the practitioner to make them in his own way in his own pharmacy.

For **puncture wounds**, whether nail punctures in feet or in other parts of the body, there is no more effective, safe and non-irritating injection than one consisting of one part of tincture iodine to seven parts of ether.

18

This can be injected into any region that happens to be the seat of injury, no matter how delicate the parts. With the exception of the eye, all tissues receive it favorably.

The mixture can be injected into puncture wounds that penetrate the abdomen without the slightest harmful effect. Even if the greater part of the quantity injected is retained no harm results. On the

other hand, the effect is most beneficial.

The point to bear in mind in using this mixture is that it be used always after the wound has been cleaned by irrigating with bland antiseptic solutions, and then not too often. The iodine in ether has an invigorating, stimulating effect on the tissues which should not be interfered with by too frequent handling of the wound. Once a day, or at most not more than twice a day is often enough to inject this mixture. It should, however, be used liberally, when it is used at all, injecting enough at each treatment to thoroughly fill in and reach all the recesses of the wound.

When it is no longer possible to inject the mixture, because of progress made in healing, the medicine is to be liberally applied on any raw surface of the wound that remains.

This mixture should not be prepared in large quantities. It acts best when made up fresh for each application, and still better if the syringe is slightly warmed in hot water before the mixture is drawn into it.

Whenever a **pulmonary hemorrhage** occurs in veterinary patients it is a serious condition, demanding prompt and active interference on the part of the attending practitioner. As in all other forms of internal bleeding, so also in this one, the first drug to be thought of is atropine. Small doses, repeated two or three times at short intervals, give the best results. The drug should always be given hypodermically for this purpose.

19

When the first dose of atropine has been administered the patient should receive an ounce of calcium chloride per orem. This is given

for its effect on clot formation, which it hastens. Only one such dose should be given; although it takes effect within 15 to 20 minutes, its effect persists for several days.

The patient must be kept as quiet as possible. Sedatives may be used if necessary.

20

Some of the most persistent cases of **fistula of the withers** and of **poll evil**, as well as chronic fistulous tracts in other parts of the anatomy, will yield to oxygen when every other form of treatment has failed.

The oxygen is used out of a small pressure tank, such a one as is commonly used in the oxygen treatment of parturient paresis. With a long fistula tube or nozzle attached to the rubber tubing connecting the tank the diseased tract is subjected to a prolonged flow

of the gas. At least five minutes should be consumed at an application, and a similar application made daily until considerable improvement is to be seen. The applications are then made every two or three days. They are to be kept up until healing has progressed to such a stage that it is no longer possible to insert a tube or nozzle.

In those cases of **meningitis** in which it becomes evident that a sedative is required, the practitioner is frequently at a loss in deciding on one.

21

What might be a perfectly safe and satisfactory sedative in almost any other condition, would in most instances be contra-indicated in a case of meningitis. Others, again, that could be used with safety would probably have but little calming effect in this condition.

One remains, however, that is both safe and satisfactorily effective. Gelsemium is the sedative par excellence in this trouble, and it is practically the only one that can be relied upon here.

It does just what is wanted of it, and it does this without interfering with the conduct of the case.

22

The so-called "ossified fetus" is not always the result of a true ankylosis of joints.

Some of these cases are the result of contracted tendons and ligaments. When these have been severed the various articulations can be bent, and the fetus manipulated sufficiently to permit of forced delivery.

It is, therefore, advisable to resort to division of the long tendons and of the articular ligaments in a limb before an embryotomy is

undertaken in these cases of fetal distocia.

As this condition is found almost only in cows, and as these are fair subjects for the caesarian operation, it is quite advisable to resort to this operation as soon as it is determined that the case is one of genuine, generalized ankylosis. If the caesarian section is done early, before much handling has been done through the vaginal canal, the cow's chances for surviving the ordeal are about even.

The chances are decidedly against recovery in these cases if the delivery is effected through embryotomy.

Embryotomy, in the case of the ossified fetus, means usually a prolonged painstaking dissection of joint after joint. It is nothing unusual if four or five hours are required to complete the job.

During this period of time the cow has been subjected to a great

variety of bruises and minor lacerations; these can not be avoided even with the best of technique. Under the circumstances it is impossible to avoid infection. The shock which follows this prolonged torture is serious; only now and then does a cow survive it.

23 **Deafness** is one of the most common effects of a **stroke of lightning**. In horses, especially, deafness is frequently the only symptom that can be observed. In most cases, however, the deafness from this cause is only temporary, persisting at times only a few days. In some cases it has been known to continue for months, and in a very few instances the animal has remained deaf permanently.

Cases that do not make a spontaneous recovery may be benefited by a course of iodide of potassium.

Bleeding, if resorted to soon after the condition is apparent, may result in the prompt recovery of some cases.

Some cases persist in spite of all treatment, while others recover completely without any form of handling.

It has been our experience that, after a wound has been subjected to washing with a solution of **bichloride of mercury**, tincture of iodine should not be applied to it immediately thereafter.

24

The effect of an application of tincture of iodine on a wound that has just been washed with bichloride solution is a painful one. Besides, we have observed a tendency towards delay in healing, as well as signs of marked irritation in wounds so treated.

If it is desired that an application of tincture of iodine be made

after a wound has undergone cleansing with a bichloride solution, the wound should be entirely freed from all trace of the sublimate solution by subjecting it to a thorough flushing with sterile water previous to the application of the iodine.

25

Except in some very rare instances, the operation of **rumenotomy** has been relegated to the class of "abandoned" surgical procedures.

In its place has come a **substitute**; a more simple and, at the same time, more satisfactory operation.

This new operation has many advantages over the old one, chief among which are the following:

1. No special skill is required for its performance.
2. There is little or no shock following the operation.

3. Practically no after-treatment is required.

4. The percentage of recoveries is greater.

The *modus operandi* is as follows:

Under the customary precautions the rumen is tapped with a "rumenotomy" trocar and canula. This instrument is especially made for this operation, and is nearly an inch in diameter. In order to facilitate its entrance into the rumen it is necessary to make a small incision through the skin.

When this instrument has been forced into the rumen the trocar is withdrawn, allowing the canula to remain.

A long metal tube, having a diameter less than that of the canula, is now passed through the canula and into the mass impacting the rumen. To its outer end a hose and force-pump are connect-

ed, by means of which water is pumped into the rumen.

While the water is being forced into the rumen the mass is to be stirred up by moving the tube from side to side, or by other movements that will cause the mass to be broken up. When a considerable amount of water has been pumped in, and the impacted rumen contents loosened and softened, further pumping causes the particles to be forced out through the canula, along the sides of the long tube.

This is kept up until enough of the mass has been washed out to accomplish the desired remedial effect. The canula is then withdrawn and the wound treated along ordinary lines.

Appropriate medicaments may be deposited in the rumen through the canula, before it is withdrawn, if it is desired.

In a firmly impacted rumen it may require several hours' time to wash out a sufficient amount of the mass.

The same operation may be performed for acute typanites.

The establishment of **nasal drainage** when trephining any of the **facial sinuses** is the **sine quo non** of success in this procedure. **26**

Yet we have known reputable practitioners to disregard this point, thereby prolonging indefinitely the handling of the case. In fact, in those cases in which a sinus is filled with pus, simple trephining of the sinus and limitation of the treatment to irrigating the sinus through the opening thus made, leaves a permanent recovery very much in doubt.

When, on the other hand, an opening is also made from a low

point within the sinus into the nasal cavity, good drainage and a rapid, permanent recovery is assured. When this is done the external, or trephined opening, can usually be permitted to close in less than ten days' time. Collections of mucus or pus that might form after this outer opening is no longer pervious to the irrigating tip find an unobstructed outlet through the nose, the nasal discharge persisting in some cases for weeks after the trephined opening has healed. Clinical evidence to prove that the opening into the nasal canal remains indefinitely is ample. Usually it does not close until its persistency is of no more value; which means, until the case is completely cured.

Freezing with an **ethyl chloride** spray is a satisfactory manner in which to terminate local cutaneous irritability, especially when the irritability is due to a low grade infection or to a form of parasitism.

27

Many of those cases of "sore neck" in which the only evidence of a lesion is a slight thickening of the skin, and in which the horse violently resents handling, yield promptly to this form of treatment.

In some cases one application effects a complete cure.

It is a well-known clinical fact that many cases of "sore neck" of this variety get well with the arrival of cold weather, having their most active spells in hot summer weather. It was this phenomenon that caused us to try "freezing" the affected parts with an ether spray. Good results were immedi-

ately obtained, and the treatment is now regularly used in these cases.

28 Fine results can be obtained from the use of **paraffin** in the treatment of burns.

The denuded area is to be liberally painted with melted paraffin. That is all there is to the treatment.

The painting is repeated frequently enough to keep the burned area constantly sealed over with the paraffin.

Some of the results obtained with this simple form of treatment are astounding.

To prevent the infliction of the pain, which the hot melted paraffin causes when applied the first time, a very thin layer of sterile cotton or of sterile gauze is first applied directly on the lesion.

The effect obtained with the paraffin is said not to be due to any medicinal property of the paraffin, but rather to the perfect seal that it forms.

For the rapid improvement and the final cure of sluggish, **obstinate sores, ulcers** and other cutaneous lesions, there is a simple mixture.

29

Drop a few crystals of iodine resublimed into an ounce of tincture of cantharides. Agitate until the crystals have entirely dissolved. Apply this mixture with a very soft, artist's brush two or three times a day.

Not more than enough for a few applications should be made up at one time. The best results are gotten when it is made up fresh for each application.

There is one disadvantage to this treatment. It must not be

used over a large area at one time, as systemic effects are aroused by the cantharides.

The cantharides is somewhat expensive, but its use is quite justified in the cases for which this is recommended.

30 The teaching that **bacterins** are not of value in the treatment of **acute conditions** is not borne out by clinical experience. On the other hand, it is in acute conditions that some of the bacterins have their most value.

Bacterin therapy today forms a part of all successful treatments for pneumonia, influenza, distemper, shipping fever.

The value of bacterins in the prevention of acute disease, especially as a complication or sequel, is undisputed.

The success of handling various acute diseases with appropriate

bacterins lies in using them early in the attack. If their application is delayed until the patient's vitality is so undermined that little or no reserve stamina remains, bacterins will not only fail to benefit the case, but they may even precipitate a fatal ending.

In treating cases of **parturient laminitis** the practitioner usually does not pay enough attention to the seat of the trouble, which is always in the uterus in these cases.

In every case of parturient laminitis remnants of the placenta can be found in the uterus. These vary in size from pieces a few inches in diameter to pieces of considerable size. Early in the attack these placental fragments are firmly adherent to the uterine walls. Later, after having undergone various degrees of decomposition, they are found floating in a sea of exudate and decomposition fluids.

Rapid improvement follows the

removal of this fetid uterine content, and when the case is handled further by the use of copious uterine antiseptic flushing the recovery is materially advanced.

32

Traumatic gonitis is not a rare condition by any means. In fact, it is common enough and presents sufficiently typical features, to deserve distinct recognition as a clinical entity. It supervenes on injuries of the stifle of varying degree, appearing ultimately as a tense, rounded swelling directly on the joint. It is accompanied by lameness of different degrees of severity.

For the handling of this condition, both as regards the reduction of the swelling and also the lameness, we have found nothing better than daily innunctions of an oily preparation of iodine.

It does not make much difference whether the oily base be heavy or light; the iodine content

must be at least as great as five percent. Better and more prompt results are attained with stronger preparations, such as would, for instance, have an iodine content of ten percent.

Applications are made once or twice a day, thoroughly working the preparation into the skin by vigorous massage with the fingers.

An area slightly larger than the swelling includes should be thus treated.

Improvement becomes evident at the end of from ten days to two weeks under this treatment, and the applications should be continued until the desired results have been attained.

The patient must not be permitted to indulge in any form of exercise during the first two weeks of treatment. Beginning with the third week the animal may be allowed walking exercise, but pulling or trotting is by no means to

be allowed until the case is entirely cured.

33

Among veterinary practitioners there does not seem to be marked conformity of opinion on what constitutes correct **preparation of a patient for profound anesthesia.**

Human surgeons have some agreement on this point and the veterinary surgeon could follow the same lines to advantage.

And eminent authority gives a general outline of what is considered the accepted method, quoting as follows:

“In general, the following plan may be adopted with satisfactory results in all cases where an anesthetic is to be administered and circumstances permit it to be carried out. The day preceding the operation the patient should keep quiet; the bowels should be thoroughly emptied by means of a saline, and the diet should

be light and easily digestible. The supper should be a light one, and nothing but water should be given for six hours at least before operation if possible; but water may be given freely up to the time of operation. **At the time of anesthesia the stomach should be empty."**

This is surely a simple, and yet effective, preparation.

It can be applied to the letter in veterinary patients as well, and with the exception of the bovine species, the results should be just as good as they are in human beings.

If veterinary surgeons hope to attain the limit of possibilities along surgical lines they must resort more and more to general anesthetics; and to be able to anesthetize a patient with the least harmful effect the patient must be properly prepared to receive the drug.

34 For most cases of "switching" in horses **myotomy** of the **caudal depressors** is a cure. It is not usually necessary to divide the curvators.

While the actual "switching" is a lateral motion, the harmful part of the habit comes from the function of the depressors, namely, "grabbing" and "holding" the line.

When the depressors are surgically divided the power to hold the line is lost, and in most cases this is the only feature that the client is interested in.

Myotomy of the depressor muscles is simple, safe and usually ample; whereas the operation performed for division of the curvators is unsafe and not so easily performed.

Division of the caudal depressors should be done first. If this does not accomplish the desired result, divide the lateral muscles at a second operation.

It frequently occurs that a cow will eat the **placenta** after having brought forth her calf.

35

There has been much doubt among veterinary practitioners as to the effect or a diet of this sort on the health of the cow.

While many able practitioners are of the opinion that ingestion of the fetal envelopes has no harmful effect, there is much evidence on record that the contrary is nearer the truth.

In many instances that have been reported by veterinarians in practice, in which the cow presented symptoms resembling impaction, postmortem examination disclosed the fact that the placenta had been eaten and had become lodged in some portion of the alimentary tract. In these cases the placenta has usually been reported as appearing well preserved and uninfluenced by the action of the digestive fluids.

In other instances that have been reported, and in which the owner or attendant has at times witnessed the ingestion of the placenta, the cow has shown symptoms of a slow, treatment-defying auto-intoxication, usually terminating in death.

The postmortem examination in these cases usually reveals remnants of the placenta in various parts of the digestive tract in a state of foul decomposition.

This clinical evidence is ample to warrant the assumption that it is not a normal habit for cows to thus indulge their appetite, and that when they do so indulge harmful results are apt to follow.

36

The differentiation, from a diagnostic standpoint, between **luxation** of the **patella**, **partial luxation** of the patella, and “**cramp**” is well to keep in mind.

1. Luxation of the patella. Occurs as the result of violence.

The animal gives evidence of great pain.

The affected limb is held in a flexed position, with the foot near the opposite hock; the patella stands out prominently in malposition.

2. Partial luxation of the patella. No violence necessary to produce, resulting from weakness of patellar ligaments.

The animal shows no pain signs.

The affected limb stands normally on the ground, but when movement is attempted flexion is impossible and the limb then becomes fixed in a backward direction, fully extended. The patella shows as a straight sharp line lodged on the outer rim of the trochlea of the femur.

3. Cramp. Not the result of violence.

The animal shows no signs of pain.

The affected limb is in normal position, but is firmly fixed. The animal finds it impossible to move. The region of the patella is normal in appearance.

The prognosis for true luxation of the patella is not favorable.

The prognosis for partial luxation of the patella is favorable, although there may be recurrence of the same trouble at variable periods.

The prognosis for "cramp" is favorable, but here also there may be recurrences. However, in many instances no recurrence is apparent.

The treatment of these conditions is discussed in the next note.

37 The **treatment** of luxation of the patella, of **partial** luxation of the patella, and of "**Cramp**" is in each instance definite, and wholly dependent upon a correct diagnosis.

Treatment of true patellar luxation:

Give morphine to quiet the horse and to overcome shock. Place the animal in stocks, in a sling, or upon the operating table.

Attaching a rope to the foot of the displaced limb, powerful traction must be exerted in a downward and backward direction. In most instances the combined pulling power of several men is required to straighten the limb, and thus accomplishing with the assistance of the veterinarian a reposition of the dislocated part. While traction is applied to the rope on the foot the veterinarian endeavors to re-seat the patella by appropriate manual manipulation.

Treatment of partial patellar luxation:

Stand behind the patient, in line with the affected limb. Place the hand firmly on the inner surface of the thigh; double the other

hand into a fist and place the knuckles firmly against the sharp outline of the patella. Cause the horse to move. Just as the movement begins bring strong forward pressure to bear on the patella with the fist; use a steady, persistent pressure.

Treatment of "Cramp":

If the diagnosis is correct, a case of this sort is easily terminated. Any sudden shock will relieve the cramp and the cure is instantaneous. Most common in vogue is an unexpected stroke with a whip; or a dash of ice-cold water over the buttocks.

In all cases of either one of these three conditions the after-treatment is very important.

When the patella has been re-seated, or in a case of cramp when this has been relieved, the affected limb should be confined in a somewhat advanced position by means of a side-line. It should be kept

in this position for at least 48 hours, and during this time an active counter-irritant should be covering the region of the stifle. A considerable area of the crural muscles should be subjected to the action of the blister.

Recurrent "cramp" can sometimes be permanently cured by a prolonged course of potassium iodide.

Practitioners of veterinary medicine and surgery should take advantage of the good results that can be obtained with auto-serotherapy in some diseases.

38

Ascites has been treated with excellent results by this method. The *modus operandi* is simple. By means of a long aspirating needle attached to a hypodermic syringe a quantity of ascitic fluid is withdrawn from the patient. (The exact quantity is variable among various exponents of the treat-

ment. A few drams suffices for the first time; at subsequent treatments the amount is increased.) Partially withdrawing the needle, it is inserted into the areolar tissues in the vicinity of the region punctured, and the contents of the syringe is injected into these tissues at various places. The treatment is repeated every three to five days, selecting a new area for puncture and subcutaneous injection at each treatment.

The entire procedure must, of course, be carried out under strict antiseptic precautions.

It is also necessary that the practitioner should examine the nature of the ascitic fluid at the time the first puncture is made, to assure himself that it is non-purulent.

A purulent ascitic fluid is the only contra-indication for this procedure.

The method of treating ascites

just described is applicable to all species.

This treatment must, however, be fortified by appropriate internal medication in those cases of ascites known to be due to cardiac, renal or hepatic diseases *per se*.

Pituitary extract has not been found as valuable in veterinary practice as it has in human medicine.

39

There is practically only one worthy indication for this agent in veterinary practice at this time.

In those cases of uterine inertia frequently met with in swine it has a place; and it fills this place well. The attending veterinarian must first establish the fact that the dystocia is not due to malposition of a fetus, or that no maternal abnormality exists. The dystocia that is relieved by pituitary extract is only that form which is

due to lack of force in the uterine contractions. This form of dystocia is very common in swine.

When the veterinarian has assured himself that the case in hand is one in which pituitary extract is indicated he may inject one mil. (c.c) of a standardized solution hypodermically. A number of pharmaceutical houses make and market such solutions in aseptic glass ampoules, ready for use.

If it appears necessary a similar dose may be given one hour later; but it is usually not safe to repeat the injection more than twice. In fact, should the dystocia persist after two doses of the extract have been administered, the veterinarian may make up his mind that there is a mistake in his diagnosis; the dystocia is due to other causes than a uterine inertia .

In the mare and in the cow irregular results seem to have been attained. Partly for this reason,

and partly because of the cost of the treatment when large doses are necessary, this agent is not looked upon with favor in dystocia occurring in these animals.

For **round worms** in horses many kinds of formulas are in use. The various pharmaceutical houses, and veterinarians themselves, go to the trouble of formulating and compounding the most conglomerate prescriptions for the elimination or destruction of these parasites.

40

There is an old, time-tried drug that will accomplish alone as much as most of such compounds do, and more than most of them. This is tartar emetic.

It is possible that, like many other old remedies, tartar emetic has been overlooked by the newer generation of veterinary practitioners.

It is easily administered and its effects are quite prompt.

Two drams on the feed three times daily for five or six days is sufficient. If this is not very convenient a larger dose is given on an empty stomach; when followed by a purgative one such dose is sufficient.

41

A new method of treating **Texas fever** in cattle has recently been recommended by certain European veterinary practitioners. According to their reports the results are highly satisfactory even in very grave attacks. The results are promptly attained and the application of the treatment is very simple.

From three to five drams of spirits of camphor are injected subcutaneously, once each day until the aspect of the case warrants discontinuance.

It is said that hardly ever are more than two or three injections required; some very bad cases

have made a prompt recovery after a single dose.

No other medicine is given; the camphor injection is the entire treatment. Neither have more frequent applications been found more beneficial; one daily dose gives entire satisfaction.

Glycyrrhiza, or licorice, especially the powdered root, has recently been given credit for value as an **aphrodisiac**.

42

Large doses can be fed to the stallion on grain, as the taste is not objectionable.

In occasional instances in which heifers fail to come in heat it is possible to bring on a period of **estrus** with a few medicinal doses of cantharides tincture.

43

44 In some parts of Europe the practitioner uses nothing but green soap in the treatment of **herpes tonsurans**. It is applied on the lesions in thick layers, allowed to remain a few days and then washed off. A few applications are said to suffice to bring away the bark-like formations. The exposed area is then treated with olive oil or iodine.

45 It has on several occasions been demonstrated that **persistent vomition** in cattle is due to organic esophageal disease.

Cases have been reported in which the subjects thereof continued to vomit for weeks, disgorging food almost as rapidly as it could be swallowed. In one case, that of a cow, the vomiting persisted for nearly three weeks. The cow finally died from inanition.

Postmortem examination disclosed an elongated thickening be-

tween the musculature and the mucous membrane, extending upward from the cardia for ten or twelve inches.

Under the microscope this proved to be a sarcomatous new-growth.

An esophageal lesion should be suspected in cattle when attacks of vomiting are persistent, especially if they are not traceable to acute digestive disturbances.

The following is said to be the most popular European method of symptomatic treatment for **foot and mouth** disease.

46

1. Treat the animals in groups, allowing only a few to intermingle. Avoid over-crowding in barns.

2. During the febrile stage use intra-muscular injections of phenol solutions.

3. In the eruptive stage, use mouth washes and disinfect all

visible lesions. When the lesions have become eroded use astringent lotions and healing salves.

4. Feed frequently small amounts of nutritious, easily digested feed.

5. Handle complications as they arise.

6. Take every precaution to avoid the spread of the infection. Despite the enforcement of most rigid quarantine, attending veterinarians may themselves carry the disease to new fields through carelessness.

47

In cows that are long and thin in the loin it is possible to hurry the **contraction** of the **uterus** after parturition by means of manual manipulation from the exterior.

This is a very desirable possibility in such cases in which the cow continues to strain severely after delivery of the fetus, threat-

ening thereby to provoke an eversion of the uterus.

It is also desirable to hasten the uterine contraction in those cases in which troublesome bleeding has followed the birth of the calf.

The veterinarian stands opposite the flank, facing the rear. With both hands, one on each side, he grasps deeply and forcibly into the flank, methodically kneading and massaging the region in an upward direction. The manipulations are continued until the animal ceases to strain entirely.

Nothing has yet been found to take the place of linseed, or flaxseed, **poultice**. This is most markedly evident in hoof applications. Its one drawback, uncleanness, can be overcome by using an antiseptic in the water when mixing the poultice.

49 Clinical experience teaches that, as a rule, **foot injuries** must not be dressed too often. With few exceptions a change of dressing once every 24 hours is ample; and more often once in every 48 hours is even better.

50 Tincture chloride of iron, in small doses three times daily, will more quickly put a **stallion** in "**condition**" for early spring service than any other drug.

51 Pure essence of peppermint is fine in full strength for ordinary attacks of acute indigestion. Give an ounce in capsule every 20 minutes until relieved.

52 In outbreaks of **forage poisoning** we have one drug on which we can absolutely rely for positive abortive effect.

That drug is **barium chloride**.

When properly administered

early in the disease it cuts short the attack, and makes of an otherwise serious trouble a benign condition.

When, in the midst of an outbreak of forage poisoning, this drug is administered to horses that are not yet showing symptoms it positively acts as a preventive.

Barium chloride should always be given intravenously when used in this condition. The dose is one grain per hundred pounds of horse.

It has the additional advantage, when so administered, of not interfering with adjunctive oral medication.

Orally, its effect can not be relied upon in safe dosage.

When giving oily and other **non-solvent** medicine in **capsules** in the treatment of acute indigestion or colic, quicker results are gotten if

a small area on the capsule is thinned out by scraping with a sharp knife.

54 Nothing can take the place of castor oil in the treatment of **constipation** with colic pain in **colts** of sucking age.

55 Guard your prognosis in cases of **abdominal pain** in horses when the symptoms do not conform to a typical attack of colic, acute indigestion, or impaction.

Frequently in cases of this kind, abdominal pains with atypical manifestations, the pain is the result of an intussusception, a volvulus, or an incarcerated bowel.

In these conditions an error in prognosis usually has a sad effect on the practitioner's reputation.

56 In treating **parturient paresis** of cows always give the heart stimulant before inflating the udder.

When there are complications, ignore these until the heart stimulant has been given and the udder inflated.

Pedunculated tumors in the vagina of cows are to be ablated in every instance. Palliative measures not only fail to bring results, but they may even be harmful.

57

There is no drug that can take the place of stramonium for cases of stranguary, vesicle irritation, or genital irritability in cows.

58

An excellent first-aid wound application for wounds in the fleshy parts of the body consists of a few grains of iodoform dissolved in an ounce of ether. Freely poured into the wound it relieves the pain, disinfects, heals.

59

60 In examining a horse for the location of a lameness in a pelvic limb, with the history of a fall, the examination should include steps to disclose a possible **fracture of the femur**.

The most satisfactory method of procedure for bringing out crepitation sounds consists in rotating the femur on its own axis.

This rotation is most satisfactorily accomplished by raising the limb just clear of the ground, grasping the stifle with one hand and the point of the hock with the other. With an ear closely applied to the femoral region turn the hock inward and outward repeatedly. Even very slight sounds of crepitation will be thus detected.

If the animal is large and the veterinarian small of stature, making this procedure difficult, an assistant may apply a stethoscope over the region while the doctor rotates the limb.

Colts have been seen in the spring of the year so grossly infested with **lice** that the beast showed signs of pain that could be confounded with those of a mild case of colic or impaction.

61

We witnessed an instance in which a veterinarian, a man of more than average ability, treated such a colt for the greater part of a day for colic. When, finally, the vermin were noticed and exterminated an instantaneous relief followed.

This instance is given space here to remind the practitioner once again that eternal vigilance is the price of success in a veterinary practice.

Wounds and abrasions that are covered with grease, dirt or sand, and other debris are most satisfactorily cleansed by careful wiping with gauze or cotton sponges saturated with pure **gasoline**.

62

63 In the treatment of cases of **lymphangitis** in the horse, mild **exercise** is of much value as soon as the swelling is decreasing.

64 When applying a **liniment** in cases of **lymphangitis** of horses the attendant should always be instructed to rub or massage in an upward direction, beginning at the hock and rubbing to the stifle; then begin at the coronet and rub to the hock.

65 Cases of **mild azoturia** are often seen in which the predominating symptoms are those of acute indigestion. The deciding diagnostic point is tremor of either the crural or the brachial group of muscles. This symptom is, however, only present during the first hour. The muscles in which it was evident then begin to tumefy.

When no tumefaction follows in these suspected cases, the case was probably not a case of azoturia.

While in most forms of **colic**, or other painful abdominal conditions, **exercise** can only be harmful, there is one form of colic in which active exercise is apt to be of some help in bringing about a more rapid recovery.

66

In colic resulting from a thrombus in the mesenteric arteries exercise is permissible.

In the treatment of a case of **tetanus** there is one factor to be taken into account whose utilization is commonly ignored. Any form of treatment for the cure of tetanus will have its worth greatly enhanced if a surplus of **heat** is added to it.

67

An animal afflicted with an attack of tetanus should be placed in warm quarters. A hot-house would have none too high a temperature for this purpose.

The temperature of quarters for a tetanus patient is warm enough

only when it actually induces perspiration.

68

There is no more satisfactory means of relieving **pain** in equine patients than by the administration of **Pasadyne**, a concentrated tincture of *passiflora incarnata*.

Pasadyne is the only drug with which we are familiar that will control the pain in cases of gastro-enteritis and enteritis in horses. Half an ounce every half hour until the relief is evident, an ounce every hour thereafter, if necessary, keeps the pain under control.

In tetanus, an ounce every four hours, later every six hours, controls the spasms and relaxes the entire musculature.

In painful affections of the articulations, in painful injuries, and in any indication for a pain-reliever, pasadyne is useful.

With proper grading of the dose the patient can be kept in the

most desirable degree of quiet, from a calm sedation to deep drowsiness.

Pasadyne is not a narcotic and its use not restricted by the federal Narcotic Law.

When it is desired to **destroy a horse** without noise, and without a struggle, it can be done by giving two ounces of chloroform intravenously.

69

A hypodermic needle should be attached to a two-ounce dose syringe for this purpose, and the injection should be made as rapidly, as possible.

When properly done the horse collapses into a semi-sitting posture, rolls on its side and dies without a struggle.

Solutions of medicinal agents that are to be used hypodermically must never contain over 20 per cent of alcohol by volume.

70

Greater alcoholic content than this produces severe pain, and is very apt to result in abscess formation at the point of injection.

71 For quickly sterilizing a hypodermic syringe and needle draw it full of chloroform, hold a moment, and empty.

72 When exposed to continued heat and light **quinine** may become poisonous. A reaction takes place, isomeric cinchonine.

This danger is especially great in tinctures and elixers containing quinine; when they become dark in appearance they should no longer be used, as they may then have become poisonous.

73 Sodium cacodylate, hypodermically, is said to give fine results in cases of canker of the foot in horses.

Doses of from 35 to 45 grains

are given at intervals of four to seven days.

Local treatment must not be neglected.

European experimenters have fully demonstrated that the female of swine, when they devour their offspring, do so only because of a lack of meat in their diet. The devouring of the young is avoided through feeding the sow a portion of meat before parturition.

74

Injecting a dram or two of oil of **turpentine** into a **pervious urachus** in colts promptly brings about closure.

75

The parts should first be cleaned thoroughly by washing with soap and warm water. The urachus itself should not, however, be molested.

When the washing has been done the turpentine is very slowly

injected into the opening. It should not be in such quantity, nor injected with such force, that it will enter the bladder. where it might provoke serious symptoms.

The colt is allowed to arise as soon as the injection has been given, and nothing further is done, unless after the lapse of 48 hours the leakage has not ceased. In such an event the treatment is to be repeated.

Usually one injection is enough to bring about a complete cure.

It is preferable to use the rectified oil of turpentine for this purpose.

76

Practitioners of human medicine classify certain **sprains** as **fracture sprains**.

It is presumed that their occurrence is fully as serious as a fracture, and frequently the recovery comes even slower than it does in a case of fracture.

In sprains of this sort it is possible that a fracture really exists at, or near, the ligamentous insertion. It may be only a slight crack in the bone, defying diagnosis.

No doubt many of the severe cases of lameness in horses that are commonly diagnosed as sprains are **fracture** sprains.

In such cases as these the proper proceeding, and the one assuring the rapid recovery of the animal's usefulness, consists of a plaster paris cast.

Even when no fracture exists, the application of a plaster cast is good treatment for sprains.

It positively solves the problem of rest, once it is in place.

While new forms of treatment for **pulmonary emphysema** are being presented continually, it is only now and then that a clinical test finds them satisfactory.

It is extremely doubtful whether so far anything has yet been offered for the treatment of this condition that will surpass in reliability, constancy, and safety the effects of arsenic.

While we are not easily led to believe that new forms of treatment can displace the old, we are never averse to giving trial to new methods.

Recently there have come from foreign veterinary practitioners strong words of praise for a new combination of strychnine, veratrin, and ergotin. Suspended in glycerin this combination has been given the name "Strychotin." The active principles are used in moderate medicinal doseage, and one daily dose is said to give satisfactory results.

78 Some cases of **panaritium**, or abscess between the claw of bovines, terminate in a more or less obstinate **fistulous process**.

Great lameness accompanies the condition and the affected animal finds walking very painful.

Becker recommends lunar caustic in the treatment of this stage of the trouble.

Having first mechanically cleansed the fistulous tract he inserts a small pencil of the caustic, imbedding it entirely. Cotton wadding is then packed into the opening to hold the caustic in place.

A bandage is then applied over all, and is allowed to remain in place for several days. It is then removed, but neither the caustic nor the fistulous tract are to be disturbed.

A rapid cure is said to follow in most instances. Lameness disappears in from 3 to 5 days.

The seat of the fistula becomes a dry, hard plug of dead tissue, which later drops out.

Acute attacks of pulmonary emphysema are at times the cause of considerable worry to the veterinary practitioner.

It is not always an easy matter in these cases to decide on a promptly satisfactory course of handling. The subjects of an attack of this sort are usually animals whose general condition has been undermined by the effects of a chronic pulmonary emphysema, the acute attack being merely an exacerbation thereof.

There is, however, one drug that can be relied upon to bring these cases under control in almost every instance.

That drug is atropine.

A single full dose will rapidly put the patient at ease, so that other appropriate medication can be followed out at leisure. The drug should always be given hypodermically when used in this condition.

Usually one dose suffices to bring the case well under control. Then follow with hyoscyamus.

The fraudulent "**doping**" of **pulmonary emphysema** patients occurs commonly in any locality where "horse-jockeying" is indulged in to any extent. Although most states forbid the practice under penalty, many cases still occur.

80

The practising veterinarian must be on his guard in such localities, when his opinion is sought in the matter of soundness. He should be able to recognize "doping."

Stramonium is the agent almost in universal use. A horse under its influence, as well as under that of atropine, shows mydriasis, an increased pulse rate, and dry mucous membranes. When the drugs have been given to full effect the animal appears drowsy.

If with these findings it is still

douful whether the animal has been "doped," percussion and auscultation will reveal additional diagnostic points. A stethoscope is a valuable instrument under these circumstances.

81

Chronic **side-bone** lameness frequently resists all ordinary forms of treatment.

While a neurotomy would in most instances stop the lameness quite promptly, it is not always possible to get the consent of the owner to the performance of this operation.

Recently some European veterinarians have been reporting excellent results from a new surgical procedure.

These practitioners ligate the digital artery on the affected side of the foot. The patient must have absolute rest for ten days thereafter. Improvement is gradual, but is said to become fully established

in most cases before the end of five weeks.

This method of treating this form of lameness is, of course, only applicable in uni-lateral side-bone. It would hardly be a safe proceeding to ligate both of the digital arteries.

Norner states positively that **milk** from herds of cows affected with **contagious abortion** is infectious to human females.

82

He claims that pregnant human females should not drink uncooked milk for this reason.

Cooking the milk, he states, will destroy the contagium.

He mentions the cases of a number of wives of farmers, the herds of which were afflicted with this disease, as aborting repeatedly.

He also makes the statement that barns housing cattle with contagious abortion, are permeated with the infective agent.

The infective agent has been found in as high as 19 per cent of sampled market milk.

Aside from the liability of human females aborting, other forms of illness have been reported as resulting from the use of raw milk out of herds afflicted with contagious abortion. In one instance an epidemic of sore-throat was traced to a similar source.

83 The **poisoning** of horses from the ingestion of leaves from an oleander plant has been reported frequently.

The symptoms noted in a case that was recently reported were as follows:

The animal was found in the lateral recumbent position, although an hour previously it had been in perfect health. There was marked lachrymation, the nostrils were widely dilated, and the animal repeatedly groaned as if in great

pain. The head and all four extremities were in a state of extreme extension, pushing against the sides of the stall. There was frothing at the mouth. Heartbeats could be heard plainly at some distance. At intervals convulsive movements of the limbs were gone through.

Later trotting motions, simulating delirium. The symptoms continued for two days, ending in recovery. The diagnosis was made sure by the discovery of evidence of recent damage in an oleander plant in the animal's paddock.

When a stroke of lightning causes the **death** of an animal the lesions are said to be the following:

84

The skin is very dry and closely adherent to the subcutem. The removal of the hide proves to be difficult.

The visible mucous membranes appear highly inflamed.

The carcass decomposes very rapidly.

The kidneys show marked changes. The renal tubules and capillaries appear as though cemented together. The appearance suggests a semi-cooked and slightly bleached condition.

The lungs show red hepatization, either one, or both. The pleura is in a state of inflammation.

The peritoneum is spotted with areas of inflammation. In very heavy stroke the intestines show this also.

The capsule of the spleen is normal, but the parenchyma is soft and almost black in color.

The liver remains normal.

85

The following record of the various **abdominal lesions** found at postmortem examination in 120 horses dead from attacks of "colic" is most interesting:

Gastro-enteritis, 18.

Acute dilatation of the stomach,

7.

Impaction of the ileum, 1.

Impaction of the rectum, 1.

Impaction of intestine with calculi, 3.

Impaction of colon by adhesions,

1.

Rupture of the stomach, 15.

Rupture of the ileum, 2.

Rupture of the colon, 7.

Rupture of the rectum, 1.

Duodenal volvulus, 2.

Volvulus of the entire small gut,

11.

Volvulus of the ileum, 9.

Volvulus of the colon, 24.

Volvulus of the floating colon, 2.

Volvulus of small gut and colon,

2.

Invagination of small gut, 4.

Incarcerated mesentery, 10.

This postmortem record illustrates most glaringly the variety of lesions that the term "Colic" obscures.

Auto-sero-therapy gives some most pleasing results in **pleurisy**.

The thorax must be tapped just as soon as it is definitely clear that an exudate is present. The exudate in the early stages is free from pus and flakes.

As much should be withdrawn as possible, and at least 40 c.c. should immediately be re-injected subcutaneously.

One such injection is usually all that is required.

All other medication is to be discontinued.

The absorption of the exudate usually requires from 5 to 6 days. Improvement becomes evident within 24 hours, heralded chiefly by rapid fall of the previously high temperature, and by the rapid return of the appetite.

The important features with this procedure are to withdraw the serum before pus and flakes are present.

The treatment of sterility in cows, especially that form which comes as a by-effect of contagious abortion, still offers many problems for the practicing veterinarian.

87

In many localities no attempt whatever is made to overcome the condition by any form of treatment. It is the custom in many parts to consign the cow to the butcher, when she fails to conceive after a few services of the bull.

Even ordinary cows are coming to have such great value, however, that many veterinarians are now asked to treat sterility where formerly the treatment of this condition was not even thought of.

Fair success in the treatment of sterility in cows has been obtained from methodical uterine irrigations by means of specially constructed instruments.

These instruments are:

1. Vaginal speculum.

2. Uterine forceps.

3. Uterine catheter.

With the speculum in place the uterine forceps are attached in the region of the os uteri and the cervix is pulled into view as far backward as it is safe to pull. Unless the cervix uteri is thus brought into view and maintained in this position it is hardly possible to enter the extremities of the uterine horns with the catheter.

The catheters may be of two kinds. The operator can use a long, thin catheter for attachment to the hose on the force pump, and a catheter of larger calibre to siphon out the contents after they have been pumped in.

Or he can use the specially improved double uterine catheter, which serves both to inject and to withdraw the fluids used.

Whichever instrument is used, it must be long enough and thin

enough to reach into the extremities of the uterine cornu.

Normal salt solution to the amount of ten or twenty gallons is repeatedly pumped into the uterus, and again siphoned out, pumping in a desirable quantity and immediately draining it off again.

By means of massage through the rectum consolidated or pocketed collections of pus or other secretions are expressed, and brought out with the irrigating solutions.

The pumping and siphoning is to be kept up at each treatment until the irrigating fluid comes back clear.

The treatment is repeated in a week.

Improvement follows even the first treatment in those cows whose general condition has suffered from the effects of pus collections in the uterus.

In those cases in which the os uteri is firmly closed a uterine dilator must be carefully used to open the canal sufficiently to permit entrance of the catheter.

In all cases it is very important that all of the injected fluid be again withdrawn.

88 Cramer, of Edinburgh, says of **Veratrum Veride:**

“Veratrum veride in small doses has a selective action on the afferent nerve-endings of the vagus. In cats it thus produces reflexly slowing or stoppage of respiration and a fall of blood-pressure due to vaso-dilatation. As a rule there is in addition a marked slowing of the heart-beat produced reflexly through vagus inhibition, but in cats this effect is sometimes absent. These effects of small doses are dependent on the integrity of the vagus nerves.

“The drug after having stimu-

lated the afferent nerve-endings of the vagus, paralyzes them so that a second or third dose is without effect.

“With larger doses the drug in addition to the effects just mentioned, paralyzes the cardio-inhibitory nerve endings of the vagus and has also a direct action on the medullary centers leading to vasoconstriction and to paralysis of respiration. These additional effects are not dependent on the integrity of the vagus nerves.

“Since small doses of the drug have so many diverse and partly antagonistic actions, the general result of a large dose of veratrum viride is very complex and irregular.

“The manner in which veratrum viride acts reflexly on the medullary centers leads to the conclusion that impulses arriving at the respiratory center can be communicated to the vaso-motor center

and to the cardio-inhibitory center, and that a central connection exists between these medullary centers.

“The question whether *veratrum viride* owes its action to veratrine, or to protoveratrine, or to another alkaloid is discussed and left undecided. It is pointed out, however, that in the light of present observations, the pharmacological action of veratrine and protoveratrine requires re-investigation.

“*Veratrum viride* is therapeutically valuable, as in suitable doses it affords a means of producing a lasting vaso-dilatation through acting reflexly on the vaso-motor center.”

89

Johnes disease is generally considered an incurable affection of cattle.

It occasionally occurs in a veterinary practice that a cow afflicted with Johnes disease is pregnant,

and that the calf to be born would have particular value on account of breed or other considerations.

In such cases the attending veterinarian is usually requested to make an attempt to improve the general condition of the cow, and to endeavor to prolong the animal's life at least to the time of parturition.

The remedy that has given better results for this purpose than any other is the sulphate of iron. The improvement is in some cases most remarkable. The dysentery ceases, the lively spirit returns, and the animal gains flesh. This is, however, only temporary.

Among practitioners in the canine branch of veterinary medicine and surgery, especially those located in the south, the disease called "**Black Tongue**" has been one of the most troublesome.

There seems to have been trou-

ble in properly classifying the disease from all standpoints, — etiology, seimiology, and pathology.

Recently an investigator has been able to clear up this confusion to some extent. In his opinion two distinct diseases have been reported under the one title of "Black-tongue."

One of these diseases is, according to this author, a necrotic stomatitis, while the other is a hemorrhagic gastro-enteritis.

For the handling of the former he recommends autogeneuous bacterious, claiming to have seen good results from their use.

For the latter form he vouches for the efficacy of lactic acid medication, at the same time condemning purgatives and antiseptics.

91

A European practitioner who expresses some doubt about the bacterial nature of **white scours** of calves, claims to obtain constantly

good results in the treatment of this condition by the subcutaneous injection of large amounts of physiologic salt solution.

Veterinary practitioners are sometimes required to decide what effect the milk from a mare suffering from tetanus will have on her colt. The answer is, none. The colt may drink the milk without harm to itself.

92

Many practitioners, both in human and in veterinary medicine, are getting much better results in the treatment of their rheumatic patients since adopting the bacterial aspect of the condition.

93

In many rheumatic patients a few doses of mixed bacterins will do more good than the most elaborate course of old-time treatment.

The veterinary Journal gives Jordi credit for the following method of handling partial **uterine torsion**:

“If I can not make retorsion in these cases in the usual way I endeavor to remedy the defect as follows: The subject is raised as high as possible behind, the feet of the fetus carefully pushed back into the uterus, and a cord put over the nape of the neck.

“Then the nose of the fetus is taken in the hand and with two helpers on the cord it is slowly drawn upwards. The head of the calf is then generally rather easily brought into the passage and at the same time retorsion is perfect.

“If in the pulling the pressure on the hand is too strong so that a rent of the orifice is risked, I stop the pulling, thrust the head back again, and keep on repeatedly pulling until the difficulty is overcome.

“As soon as the torsion is rem-

edied the head is shoved back again, the feet brought up, the patient placed in the usual position, and delivery accomplished. I have succeeded thus in dozens of cases without ever injuring the uterus, and in this way remedied the torsion, and accomplished the birth successfully."

A prolapse of the rectum to any marked extent is a serous condition in any species.

95

There is usually considerable shock, danger of infection, necrosis threatens.

When palliative measures have been given a fair opportunity to correct the condition and fail to do so, the practitioner should lose no time in resorting to an amputation.

The results in rectal amputation are excellent in all animals, and unsatisfactory results usually are the result of delay.

With ordinary surgical skill and average surgical cleanliness harmful results are usually avoided if the operation is done in time.

96

A great improvement is said to have been made in **anesthetics** by using equal parts of **aromatic spirits** of **ammonia** and A. C. E. mixture.

This is especially adapted to canine practice.

It is said that the subject "goes under" more quickly, the period of excitement is shorter, and the awakening from the anesthetic is more rapid.

Many of the other disagreeable bye-effects of anesthesia as ordinarily produced are said to be absent with the use of this mixture.

Several veterinary practitioners, among them Dr. E. L. Quitman of Chicago, have expressed them-

selves as very much pleased with this anesthetic.

Apparently it is a great improvement over the straight mixture of chloroform, alcohol and ether.

A practitioner claims to be able to get marvelous results in cases of ordinary **colic**, of **impactions** of the bowels, and in **acute indigestion**, by giving medicines directly in the **cecum**.

97

According to this veterinarian it makes no difference whether the cecum is the seat of flatulence or not; he taps this part of the gut in all cases with a trocar and canula and administers his medicaments through the canula.

He claims that the results are in some cases marvelously prompt and highly pleasing.

The method deserves to be copied and given a trial.

In our opinion the greatest diffi-

culty would lie in getting the owners' consent to the procedure, especially as in some localities the laity has a decided prejudice against the tapping operation.

Aside from this there might be some difficulty experienced in making sure that the canula had entered the intestine, and that its end was not free in the peritoneal cavity. This difficulty would be most likely in ordinary attacks of colic in which no flatulence existed in the intestine.

While we admit that the method may have certain advantages, and while we do not doubt the reports of occasional marvelous results, we are in doubt as to whether the practitioner is fully justified in puncturing the abdominal cavity with impunity.

In our own practice we would limit the use of this method of administering medicine to those cases in which the flank is suffi-

ciently distended with gases to warrant the insertion of the trocar for its removal.

Pigs under six months of age are frequently the subjects of a form of **paralysis** affecting the hind quarters.

98

The animals appear quite well in other respects, although the paralysis may persist for weeks.

The condition has been defined as a parenchymatous neuritis, for which no very satisfactory form of treatment has so far been found.

In some cases hexamethylenamine appears to bring about some improvement, while in others it has no effect.

Warm, dry pens, and good nourishing feed apparently have as much effect on the disease as any medicine that has so far been applied to it.

This much can also be said from the standpoint of prevention.

The trouble is rarely seen in warm, cleanly and dry pens. Sanitation plays a considerable part in its prevention.

99 The power of **sugar** to remove exuberant granulations has long been known among veterinary practitioners.

More recently reports have come in relating to the value of sugar in the treatment of **wounds** of various classes.

The results have been excellent, especially in wounds of the coronet, wounds about the pastern, and lower extremities.

The manner of applying sugar as a wound dressing is simple. The sugar is thickly sprinkled directly upon and into the wound; a layer of cotton and a bandage is then applied over it, and left

in place for from three to five days.

When the dressing is removed a yellowish or brownish crust covers the surface of the wound. When this is removed by washing with an antiseptic solution a healthy granulation is seen underneath.

The dressing is repeated at similar intervals, until complete healing has taken place.

This form of wound treatment is said to adapt itself especially to such wounds as wire-cuts, for the reason that there is no danger of "**proud-flesh**" formation.

In the case of wounds in more delicate parts of the anatomy the treatment is confined to washing and irrigating the wounds with a saturated solution of sugar in water.

100 **Solutions of Boric Acid** to be efficacious for any purpose in veterinary patients, no matter what the species, must be of official saturated strength. This means that an ounce of the solution must contain about 19 grains of boric acid. Even this is very weak.

It is almost impossible to make a solution of this strength with cold water.

101 After the delivery of an equine decomposed fetus the **uterus of the mare** should be copiously irrigated with warm **normal salt solution**.

This is to be done chiefly for the mechanical effect of flushing out debris, such as hair and tissue shreds, and for the tonic effect of the sodium chloride exerted on the mucous membrane.

To avoid sepsis in the mare this flushing should be done every few hours during the first day following the extraction of the fetus.

Normal salt solution does everything in these cases that a stronger antiseptic solution would do, minus the harmful effect which occasionally follows the use of too active agents. As has already been made clear, the object is to clean out the uterus mechanically by means of large quantities of the solution, frequently repeated.

While not very common, a condition that causes the veterinarian much concern when it does occur, is a **luxation** of the **flexor pedis perforatus** tendon.

102

This occurs when the tendon slips off the os calcis.

The usual course in these cases is to recommend the destruction of the animal.

In a recent report of a case of this kind the attending veterinarian makes the statement that it is a mistake to condemn these patients to death at once.

He gives his experience as follows:

A valuable work horse suffered an injury as described. The owner was reluctant to destroy the animal, and requested that some effort be made to save the patient. As a result the veterinarian divided the tendon below the hock, allowing easy replacement of the luxated portion. The region of the tenotomy was heavily fired and blistered.

The horse made a very satisfactory recovery.

103

Fischer recommends the **intravenous** administration of **camphor** for "affections of the respiratory tract, contagious or otherwise."

The solution to be used for this purpose is to be prepared as follows:

"Dissolve 8 grams of sodium chloride in one liter of water and

sterilize by boiling. Add drop by drop, a saturated alcoholic solution of camphor, until a white flocculent precipitate appears. Filter. The dose for a horse varies from 0.9 to 1.5 liters according to the size of the animal.

“The injection should take 5 or 6 minutes, and should be repeated in grave cases after 12 or 24 hours. There is a violent and short reaction (excitation).

“The entire treatment consists of 2 to 6 injections, according to the gravity of the disease. It is being experimented with in several other infectious diseases.”

Bier's hyperemic treatment must not be forgotten in the handling of infections of the articulations in the extremities.

The treatment, while not always successful, has some wonderful cures to its credit. Many of these cures were achieved with this

treatment after other forms of treatment had failed.

The ideal moment for the application of this treatment, is however, early in the course of suppurative processes in joints.

There is no elaborate outfit required for applying this treatment. An ordinary elastic tourniquet can be used if a regular elastic bandage can not be obtained.

The elastic is to be applied quite firmly above the lesion, and left in place from three to six hours. The same proceeding is gone through once or twice daily, allowing at least 12 hours to elapse between each application. No other treatment is required.

105 When a cow gives birth to **twin calves** the veterinarian is at times requested to give his opinion on the theory of what are usually called "**free Martins.**"

In "Science," Vol. 43, Little disposes of this subject as follows:

"The term free-martin is applied to the female of heterosexual twins of cattle. The recorded experience of breeders from ancient times to the present has been that such females are usually barren, though cases of normal fertility are recorded.

"This presents an unconformable case in twinning and sex-determination, and it has consequently been the cause of much speculation."

No hard and fast rule can be followed in advising on this point. While such females may prove barren in a few instances, they do prove fruitful in a great number of instances also.

Some practitioners report good results with **sulfuret of carbon** for the destruction and expulsion of "bots" in horses.

While it is usually presumed that "bots" are rarely the cause of pathological conditions of horses, the fact remains that at many autopsies an amazingly extensive invasion of the alimentary tract is disclosed. It would not be reasonable to assume that great quantities of these parasites could inhabit the stomach without producing more or less harmful effects.

The treatment is begun with a purgative dose of aloes. The next day four doses of sulfuret of carbon of 2 drams each are given in capsule, one hour between each dose. The stomach should be empty, for best results.

The "bots" can be demonstrated in the feces within 24 hours after this treatment is given.

There are said to be no harmful effects.

Evidence that the common house-cat may spread the infection of **diphtheria** is found in the following communication taken from the Journal of the American Medical Association.

“An outbreak of diphtheria in an orphanage has been traced to cats. Sixty-nine cases, which were the great majority of those which occurred, came from the boys’ house. After many investigations and precautions, such factors in the production of the disease as sanitary defects, contaminated water supply and food were eliminated. Realizing that there must be some carrier of the bacillus, the physician in charge decided to turn his attention to the cats, and took swabs from all of their throats. On bacteriologic examination it was found that the four cats from the boys’ side of the orphanage were suffering from diphtheria; the four cats from the girls’ side, although showing oth-

er micro-organisms in profusion, did not prove to have the true diphtheria bacillus.

“The cats were destroyed, and after that only ten more cases of diphtheria occurred. They occurred within a few days, showing that the patients had already been infected when the cats were destroyed. There have been no more cases since.”

No doubt a similar state of affairs exists in the case of other infectious diseases when a given outbreak persists indefinitely. In veterinary practice there are many instances in which an epidemic of disease among animals has been kept alive by such carriers as dogs and barn cats. In other instances it is possible that the spread of a contagion occurs through the agency of mice and rats.

Chickens and other birds can also become dangerous carriers of

certain epidemic disease germs. Quarantine regulations must be made to consider these possibilities.

A form of **paralysis** of the internal **popliteal nerve** has been reported as occurring with considerable frequency in cows. An English practitioner reports the condition as being "frequently observed in dairy cows, more frequently subsequent to parturition. While standing the animal can place little or no weight on the leg and the digits are held in a state of plantar flexion. The hock cannot be extended, but with each forward step it is over-extended, so that the foot is jerked upwards and forwards with the digits flexed backwards, and the anterior surface of the fetlock finally comes to the ground.

108

"Recovery takes place spontaneously in about 75 percent of the

cases. In the other cases the animal lives from one to several weeks, and when rising shows great muscular atrophy of the thighs. There seems to be no pain. The animal loses flesh rapidly. Treatment has been of no avail."

109

Moret has devised a treatment for **tetanus** which he bases on the remark of a famous physician, namely that "all tetanic that sleeps is a tetanic that will recover."

This statement by Baccelli caused Moret to resort to a means of producing sleep in his tetanic patients by a method that he says has given him very good results. The method is as follows:

"A pharmacy vial, 90 grammes dimensions, is armed with a rubber tube which carries at its end a canula. The vial is three-fourths filled with **ether** and then put in a vase containing a sufficient quan-

tity of warm water, below boiling. The canula is introduced in the rectum, the evaporation of the ether takes place slowly and completely, the vapors are absorbed by the mucous membranes and general sensibility is dulled.

The horse sleeps. This can be renewed every two hours or more, according to the cases. It is understood that a complete anesthesia is not necessary to be obtained but only a relaxation of the tetanized muscles."

We do not doubt the efficacy of this method, but we doubt very much its practicability.

This method of treatment could, however, be used as an adjunctive line of treatment with other more practical forms of tetanus treatment, using it especially in such cases in which it would be very desirable to overcome very powerful spasms.

It is also possible that this

method of producing partial anesthesia could be utilized for the performance of minor surgical operations. Or it might serve as a prelude to the administration of inhalation anesthetics.

It is possible that the stage of excitement in chloroform anesthesia could be eliminated in this manner.

110 **Sodium hyposulphide** has been recommended for various forms of blood dyscrasia by a number of eminent authors. It has, however, never been used very extensively for such conditions by the practitioner of veterinary medicine.

A foreign practitioner has been reporting some excellent results from the use of this drug in cases of distemper of dogs.

He uses the same method for all cases, no matter in which part of the anatomy the symptoms predominate, and the sodium hypo-

sulphide constitutes the entire treatment.

All cases, he says, must first be purged with calomel.

He then gives one daily dose of the drug for ten days in sweetened water or milk, the dose varying according to the size of the dog from one-half to one and one-half grains.

When pulmonary symptoms are present he applies counter-irritants as an aid to the treatment.

Improvement is said to come very promptly.

Periodic ophthalmia, also called "moon-blindness," and specific ophthalmia, has in the past presented many obstacles to a satisfactory method of handling.

While a particular attack can usually be brought under control without great difficulty, the sequelae which eventually develop

after repeated attacks, usually prove very discouraging.

A European veterinary practitioner has recently offered the following as a very successful method of handling this disease.

“With an aseptic syringe of 20 c.c. draw blood from a superficial vein; transvase it at once in a wide-mouthed sterilized glass vial and cork it hermetically. Place the glass in a cool place.

“Twelve hours after getting the blood, a sufficient quantity of serum is formed to allow immediate use, if the case is pressing, but it is better to wait 24 hours. When it is to be used take an aseptic hypodermic syringe and draw into it 3 to 4 c. c. of serum. Close the glass immediately to keep its contents 3 or 4 days in a cool place.

“Anesthetize the eye with 5 or 6 drops of sterilized cocaine solution, and wash it with tepid sterile physiologic salt solution.

“Raise the upper eye-lid and introduce the needle of the syringe under the conjunctiva of the bulb, so far as possible from the sclero-corneal margin. Force the fluid slowly in.

“A small edema is formed and reabsorbed in less than twelve hours.

“Withdraw the needle quickly and wash the eye again with physiologic solution.

“A second injection can be made 24 hours later.”

The author recommends the same line of treatment for other eye troubles of an inflammatory character, such as conjunctivitis, keratitis and iritis.

The results are said to be very satisfactory in every case.

The **castration** of **ridgelings** is usually performed through the inguinal route.

Some operators, however, prefer to perform the operation through the flank.

Winter recommends the **flank** operation and says it has many advantages over the inguinal.

He selects for opening the belly the area just above the fold of skin in the right flank. Occasionally he uses the left side. He prepares the operation area by shaving, scrubbing with ethereal soap, and finally painting with tincture of iodine.

He makes the incision in a direction almost vertical, closing it at the end of operation with sutures.

The author claims entire freedom from disagreeable after-effects with this form of operating.

Patrick also speaks very highly of the flank operation for ridgel-

ings. This veterinarian resorted to the flank operation after he had found the inguinal operation troublesome and not at all satisfactory.

He prepares his patient by first administering a physic, and then administers chloroform for anesthesia. He uses ordinary antiseptic precautions in his technique.

He makes the incision just large enough to admit his hand, and removes the testicle with an ecraseur.

He stitches the muscle with four sutures and the skin with five in closing the wound.

In our opinion the inguinal route offers the best chance for the patient. While it may be a much more simple matter to locate the testicle by way of the flank the risk of infecting the peritoneal cavity is much greater in this operation than it is in the inguinal.

The inguinal wound offers better drainage also in case the operative incision becomes seriously infected.

113 We have performed a few operations on horses under an **anesthesia** produced by intraperitoneal **injections** of **chloral** hydrate, a method that was brought to our attention in reports of other practitioners.

The method of producing this anesthesia is as follows:

1. The patient is prepared for immediate operation. If confinement is to be on the operating table the horse must be attached to the table, ready for turning down, because usually the effect of the chloral becomes established so rapidly that no time remains for this purpose.
2. The flank region of one side is prepared for the entrance of a

trocar, by shaving, washing, and painting with iodine.

3. For a thousand pound horse two drams of chloral hydrate are dissolved in a quart of sterile water. This solution must be of blood warmth at the time it is administered, and every precaution must be taken to maintain the sterility of the solution, as well as the utensils in which it is contained.

4. Having previously provided for a long piece of rubber tubing and a funnel, an ordinary colic trocar and the canula is inserted through the flank into the peritoneal cavity. One end of the rubber tubing is attached to the canula and the other to the funnel, all of which must be sterile, and the warm sterile solution of chloral hydrate is slowly poured in.

Almost instantly the patient becomes unconscious, this effect last-

ing in some instances for more than an hour.

The operator must make sure that the end of the canula is in the peritoneal cavity and not in an intestine. If the solution should be placed in an intestine the result would be a failure.

It is not usually a very difficult matter to place the trocar.

Our experience with this form of anesthesia has been very satisfactory so far as the anesthetic effect is concerned.

In one case, however, the effect of the method was not wholly satisfactory. In this case the patient, a roarer, was nicely anesthetized but on awakening from the anesthesia became slightly delirious; the delirium did not abate even under appropriate treatment, but persisted for several hours during which the patient was difficult to control. Eventually the animal became quiet, but it developed a

severe case of ascites a week later which terminated in a general dropsical condition and death.

Luckily, this animal was our own property. Aside from this one bad effect our experience with the method was satisfactory.

The following method of treatment is highly recommended for **follicular mange** in the dog, effecting a permanent cure in from one to three weeks, depending on the severity of the case and the care with which the treatment is administered.

114

The patient must first be closely clipped. Then rub in once each day an ointment composed of carbolic acid one part, camphor two parts, white vaseline six parts. However, the entire body must not be covered with the ointment in any one application; about one-fourth of the body is to be treated each time. At the end of four

days, when the entire body will have been anointed, the dog is given a bath in a two per cent solution of sulphur of potash.

The applications of the ointment are then resumed the same as before. This is kept up until a recovery has ensued, which will in all instances prove to be permanent according to the author of the treatment.

115

Schroeder and Cotton of the United States Bureau of Animal Industry have made investigations which put a new light on many phases of **contagious abortion** in cattle.

This disease is so important that it is essential for the country practitioner to have the known facts in regard to it ever in his mind. It is safe to say that no other single disease costs the United States as much in loss of live-stock as this one. It is only a matter of a short

time when rigid quarantine measures will have to be enacted for its control. Its eradication is another question entirely.

A few of the important points brought out in the researches of Schroeder and Cotton will bear emphasis. They say among other things:

“How imperfect our knowledge about this perplexing evil has remained at once becomes apparent when we consider that it has not been certainly determined which of the two hosts, the cow or the fetus, is primarily attacked by the parasite. That is to say, we do not know whether the abortion bacillus primarily causes a disease of the cow’s uterus which leads to the expulsion of the fetus, or whether, in the first place, it causes a disease of the fetus which subsequently impels the uterus to expel its contents.

“One of the superlatively im-

portant facts about abortion disease is that cows often remain carriers of abortion bacilli long after they have ceased to abort, and that cows which have never aborted and regularly and normally produce seemingly healthy calves may be chronic carriers and disseminators of abortion bacilli."

* * * * "The favorite habitat of the abortion bacillus in the bodies of cows is the udder, and the udder is seemingly its only habitat in the bodies of non-pregnant cows. Our work regarding this fact includes hundreds of carefully made tests with milk from numerous cows."

* * * * "When we consider how cows are milked, and how the milker goes from cow to cow without disinfecting his hands, and that the udders of cows are the commonest habitat of abortion bacilli, this mode of infection can

not be regarded too lightly, or as an untenable supposition."

* * * "To prevent the spread of abortion disease, owners of uninfected cattle should be instructed to have careful agglutination tests for abortion disease made of all cattle they propose to introduce into their herds; and owners of infected herds should be taught that aborted fetuses, also the afterbirth and the discharge from the vaginas of infected cows, are infected with abortion bacilli and must therefore be disposed of with care.

"The treatment of individual cows which have aborted or failed to clean properly after parturition must be left largely to the good judgment of the practicing veterinarian. If the uterus is given a proper chance to heal after it has been damaged by an abortion or a retained afterbirth, the abortion bacilli in it need occasion little worry, as they will rapidly disap-

pear of their own accord, and it is very questionable whether reparative processes are not retarded rather than facilitated by douching with germicidal solutions which are strong enough to kill bacteria in a reasonable length of time, or the length of time during which they remain undiluted in the uterus. Douching is no doubt good practice, but it is desirable that there be a flooding out, a washing out, a real physical cleaning of the uterus; and this can best be done with solutions which are healing rather than germicidal, soothing and not irritating."

116

New uses for **ether** are almost constantly being reported.

Waterhouse uses Ether chiefly for its antiseptic properties in surgical conditions.

His method of using ether in cases of **peritonitis** consists of injecting several ounces of it direct-

ly into the peritoneal cavity. He claims excellent results and says the only effect that is seen when too much is injected is a deep sleep. He reports one case in which artificial respiration was necessary to keep the patient breathing.

In **suppurative arthritis** he recommends the aspiration of the joint contents, followed by the injection of a small quantity of ether. The joint should then be immobilized.

In treating open wounds he pours the ether directly on and into the wound, allowing it to "boil" for a few minutes. He then applies gauze soaked in ether.

The following therapeutic note has been taken from a medical journal:

117

"A diluted **tincture of iodine** has been used with good results as an application to the skin to counteract the corrosive action of **car-**

carbolic acid. It has also been recommended for internal use as an **antidote** against poisoning by the acid.

“Tincture of iodine neutralizes the corrosive action of the acid on the mucous membranes of the mouth and esophagus, overcomes the poisonous symptoms, and is said to prevent lesions of the stomach and intestines by the probable formation of non-toxic phenol iodide.

“The author regards the action of tincture of iodine in carbolic acid poisoning as superior to that of the alkali sulphates.”

No doubt the beneficial effect of tincture of iodine as an antidote to carbolic acid poisoning lies in the alcoholic content of the former.

An exchange reports the following method as satisfactory for producing **anesthesia** of an entire lower limb.

“The extremity to be operated on is carefully bandaged with a soft rubber bandage from the distal to a point sufficiently high to allow free access to the field of operation. This must be done so that all the blood is squeezed out of the extremity and kept out by a broad band above the field of operation. A second rubber bandage is wound about the extremity below the field of operation, enclosing it between the upper and lower bandages.

Under infiltration anesthesia a subcutaneous vein, close to the upper bandage, is exposed. The vein is freed, two ligatures passed beneath it, the upper ligature tied, and the vein cut across. An ordinary metal infusion canula is then passed into the distal end of the

vein and tied over it, firmly closing the vein about the canula. Through this canula the operator injects from 50 to 100 c.c. of a one-half per cent novocaine solution in a direction opposite to the normal blood current.

Anesthesia results in from 5 to 10 minutes, due to the passage of the novocaine solution through the vein wall, and is complete.

The canula is left in situ; injected solution must not escape. When the operation is completed and before closing the wound, he washes out the veins with warm salt solution.

As an additional precaution the upper bandage is loosened sufficiently to allow the blood to flow through the arteries and thus to wash out still more of the novocaine solution. After the blood has flowed for a few minutes the bandage is again tightened, the wound sponged dry, and closed in

the ordinary manner. The dressing is applied and the rubber bandages removed. The anesthesia persists for from 5 to 15 minutes after washing out the veins."

As a result of experiments made on animals it has been discovered that when **cocaine** is injected free into the **veins** the sense of pain is lost over the entire body.

119

This total anesthetic effect of the drug is maintained for periods of time varying from 5 to 15 minutes, and in some cases lasting as long as a half hour.

When a very weak solution is used the animals are apparently aware of being touched, but pain is not felt.

With stronger solutions the sense of smell is also lost.

None of the animals used for the experiments died, and only in a very few were there any bad after-

effects, and these could in all instances be traced to over-dosage.

These experiments and their disclosures may possibly lead someone to elaborate a satisfactory method of obtaining results in practice.

120

The **poisoning** of live-stock from bites of the **rattlesnake**, and other venomous snakes is a common occurrence in some localities.

The result is not very often fatal, only a few deaths having been recorded.

White says the venoms are partially neutralized by ammonia and by permanganate of potash, but he claims that the best of all antidotes is a 2 percent solution of hypochlorite of lime. This is a chemical antidote that will positively destroy the venom as soon as it comes in contact with it.

In addition to the application of these chemical antidotes a tight, encircling ligature should be applied above the wound when this is in a part of the anatomy that will not be apt to suffer from the constriction.

Fumigation or disinfection of premises with sulphur is an old and quite satisfactory manner in which to carry out the sanitary requirements after the prevalence of contagious diseases.

121

Some trouble is at times experienced in keeping the sulphur burning and in getting the entire quantity consumed by the fire.

Klocman claims that this latter trouble can be overcome by adding chlorate of potash to the sulphur. The entire mass then is quickly and completely burned up.

He mixes four tablespoonfuls of chlorate of potash with the same

amount of sulphur, care being taken not to grind the two together for fear of explosion. This is placed on paper and deposited in the bottom of a suitable vessel. Sticks of sulphur are laid on top of the mixture and the paper is then lighted.

122 A discussion of the **functions** of the **spleen** is always interesting to the practitioner.

All veterinary practitioners are awaiting new thought on the functions of the various ductless glands, and especially of the spleen. A good understanding of the function of some of these organs will assist materially in the diagnosis and treatment of a number of diseases.

Hirschfeld indulges in a lengthy discussion on the very important functions of the spleen, but he causes the reader to lose all faith in his discussion, as well as in the

spleen, when in the end he finishes up by saying that any one can get along without a spleen. Only exceptionally, he says, is an individual encountered who is unable to do without it.

Splenectomy is not a rare operation in human beings, and many on whom the operation is performed enjoy good health for years thereafter.

Only a few years ago the treatment of **fistula of the withers** and **poll** with Beck's Bismuth Paste was quite popular.

123

Various kinds of results were reported; good, bad, and indifferent. Recently not much has been heard about this form of treatment. Apparently it has been discarded.

Beck, the originator, makes the assertion that poor results with the treatment are due to the following mistakes:

1. Insufficient mixing of the bismuth with the petrolatum so as to leave small lumps.

2. Insufficient heating.

3. Use of improper instruments.

4. Injecting with undue force.

5. Incomplete filling of the whole sinus tract. This last, he says, is the most common error.

Beck shows by the results in 527 cases treated, over 80 per cent of which were cured, that the treatment is very successful when it is properly applied.

124

Mann has made some very interesting investigations in the direction of establishing the connection between **shock and hemorrhage**.

“In a normal dog 66 per cent of the blood can be obtained from the femoral artery and 10 per cent from the heart, making a total of 76 per cent which can be secured, leaving 24 per cent in the tissues. In an animal in which the cervical cord

is sectioned, producing medullary vasomotor paralysis, 54 per cent of the blood can be obtained from the femoral artery and 12 per cent from the heart, a total of 66 per cent, leaving 34 per cent in the tissues. In an animal in which the blood pressure is depressed practically to zero by an overdose of ether, 46 per cent of the blood can be obtained from the femoral artery and 13 per cent from the heart, making a total of 59 per cent, and leaving 41 per cent in the tissues."

The question whether synthetic **camphor** has the same medicinal value as true camphor has not been satisfactorily answered. While some authorities look upon the synthetic product, made from oil of turpentine, as entirely equal to natural camphor, others of equal prominence warn against the use of artificial camphor in internal medicine.

The chemical formula is the same for both the synthetic and the natural camphor.

The editor of the Journal of the American Medical Association has this to say about camphor:

“The pharmacologic evidence with regard to camphor is confused and contradictory, and the clinical evidence is naturally still more so. On the subject of the clinical value of natural camphor there are many diametrically opposed opinions. While in Europe camphor is widely used for its circulatory actions, especially in threatened cardiac failure, certain English and American observers have been unable to detect any action from camphor which would justify reliance on it as a cardiac stimulant. Further observations are much to be desired.”

It is indeed strange that with this state of affairs existing on the subject of camphor the veterinary

profession in America should find camphor such a valuable drug. Just now camphor in oil is being hailed as a wonderful agent, and is being used for almost everything. Only a few days ago a drug salesman informed us that their camphorated oil for intra-muscular use was one of their best sellers.

Possibly this is one of the fads in veterinary medicine. Fads are usually short-lived; and we predict that in a year hence camphorated oil will have passed into history among veterinarians.

Veterinarians as a rule do not have a good knowledge of the subject of **anesthesia**.

126

One reason for this is that, until the last few years, animals were not often anesthetized for surgical work; the surgical work was most frequently done without general narcosis.

Today the tendency is more towards humane procedure, and complete narcosis is more commonly resorted to.

Dr. Isabella C. Herb, anesthetist to the Presbyterian Hospital and Instructor in anesthetics at Rush Medical College, Chicago, has in an article on the accidents during and following general anesthesia made some points very clear, a few of which we have copied for reproduction here.

“Death, the most unfortunate and terrible of all accidents, occurs in the hands of the most expert and careful anesthetists, and this is especially true if chloroform is being or has been administered. However, it can not be gainsaid that many deaths are due to a lack of training, carelessness or a too great confidence in the safety of the agent being administered.”

“Deaths during narcosis, which are not due to hemorrhage, or

when the patients are not moribund on entering the operating room, are due to the anesthetic."

"Deaths due to operative methods occur after the patient has been returned to bed."

"When chloroform is being administered and deaths occur during the induction of the narcosis, it is usually due to a too concentrated vapor, especially if the patient has an enlarged or fatty heart, or if he struggles or holds his breath and then inspires deeply. The extra amount suddenly brought to the heart may paralyze it."

"Capps and Lewis were able to resuscitate thirteen out of sixteen dogs by passing a hard rubber tube into the trachea and by means of a pump air was forced 15 to 20 times a minute into the lungs."

"As long as the heart continues to beat an endeavor should be made

to re-establish respiration. There are several instances recorded where efforts have been crowned with success after two or three hours of artificial respiration."

"To re-establish circulation is more difficult than to re-establish respiration; however, rythmical compression of the heart either directly or indirectly through the diaphragm has been reported as successful in several instances. The abdomen has been opened with that object in view or the procedure has been resorted to during abdominal operations. Fifteen minims of the 1 to 1,000 solution of adrenalin may be injected directly into the heart muscle to stimulate contractions."

Dr. Herb says that the most common secondary or remote accidents are pneumonia, renal complication, acid intoxication, and paralysis. Pneumonia occurring after operations should, she says, be called

post-operative and not post-anesthetic. She then shows that pneumonia follows an operation as frequently when only local anesthesia is used, as when general is used. In concluding Dr. Herb says:

“Faulty administration and impure agents rather than idiosyncrasy are responsible for many of the untoward effects. Practical and theoretical instruction in the selection and use of anesthetics should be made an obligatory part of the curriculum in medical colleges.”

The same recommendation will apply to veterinary medical schools.

A simple method for the removal of warts has recently been reported.

It consists of injecting at various places under the wart, by

means of a hypodermic needle and syringe, a small quantity of a solution of quinine-urea hydrochloride of from 30 to 50 per cent strength.

The method is applicable to warts of both small and large proportions and is said to be free from harmful effects.

The injection is followed by edema of variable degree in the region of the growth; later the growth undergoes a form of dessication, and finally it drops off.

The exposed area is then treated with healing salves or lotions astringent in action.

The same method might be used in the treatment of other benign growths.

Deficient **thyroid gland** function, producing a condition similar to **cretinism**, is an abnormality occasionally met with in pure-bred calves when "in-breeding" has been practiced.

128

The condition is chiefly of interest to the practitioner when, as it sometimes happens, the condition occurs in an acute form during the first few weeks of the animal's life.

Symptoms become evident most commonly at about the second week following birth.

The calf shows at first rapid breathing spells, which after a few days are more marked and more frequent. During these spells the calf perspires in spots.

It is now seen that the calf is not perfectly formed. The fore-quarters appear massive, the neck is very short, full and arched superiorly and inferiorly.

The head appears short and clumsy. Usually the eyes appear to be very prominent, giving the calf a wild, frightened expression.

In the region of the thyroid glands there is in some cases a cystic, or edematous swelling; in others the region may be smooth. The examining fingers fail, however, to identify the thyroids.

When the condition has been attracting attention for several days, a cough develops.

In other respects the animal is quite well; the appetite is not as a rule affected, and the calf remains quite lively.

Quite satisfactory results can be obtained in these cases from the administration of thyroid extract, giving about five grains 2 or 3 times daily. When the acute symptoms are under control, a dose every few days is continued.

Salol should never be administered in the form of **tablets**. No effect is obtained when giving this drug in this manner; the tablets do not dissolve, and are frequently eliminated unchanged. Salol is most satisfactorily administered in capsules, or if the animal is eating good the powder can be mixed with the feed.

129

A very satisfactory **healing ointment** is made from **pyoktannin**, or **methylene blue**, and wool fat. Heat an ounce of purified wool fat until it becomes semi-liquid. This is best done by holding the container in boiling water for a few minutes. When it has become very soft stir in thirty grains of methylene blue, hold the container in cold water, and keep on stirring until the fat again becomes quite solid.

130

This makes an ideal ointment for wounds of all sorts, especially old

sores that are surrounded by a zone of inflamed tissues.

To be effective the ointment must be gently rubbed into the raw surfaces and also along their edges.

Only one or two applications are made daily, and only a sufficient amount is used at each application to thoroughly color the area. A very thin film of the ointment is then spread over all, and this is not to be disturbed until the next application is made. It is then carefully wiped off with a cotton swab, and the ointment applied as before.

While we have not had the opportunity to try it in cases of summer sores, or botryomycotic infections, we believe that it would be followed by good results in such cases.

A pharmaceutical combination of great merit which we have named a **neutralizing cordial** is the following:

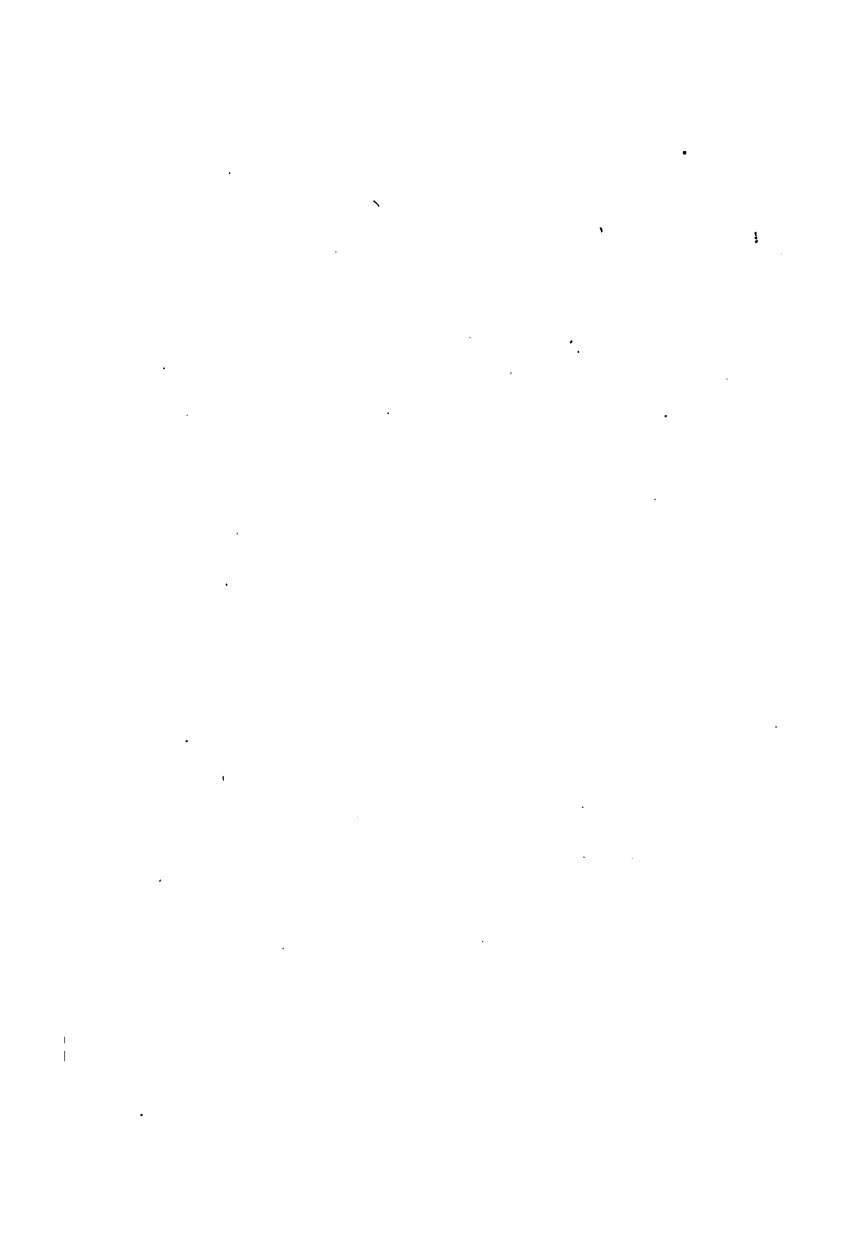
Hexamethylenamine	1 ounce
Essence of peppermint . . .	1 ounce
Tr. Capsicum	1 dram
F. E. Licorice root	1 ounce
F. E. Gentian root	1 ounce
Water, to make	12 ounces

The dose is one ounce, to be given with a dose syringe, or in capsule, 3 times a day, for horses.

This is a very satisfactory mixture to use as an after-treatment in cases of grave intestinal flatulence, and after severe attacks of acute indigestion.

It will prevent the frequency of attacks of "habitual" colic, resulting from catarrhal intestinal conditions.

With the addition of moderate doses of cascara sagrada it makes a satisfactory combination for cases of chronic indigestion and constipation.



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APPENDIX.

Nearly all practicing veterinarians have cases of lameness brought to them from time to time which, according to all standards of therapeutics, should be forced to rest for various periods of time. In many of these cases, however, the owner can not afford, or can not arrange to lay the horse up, and he wants a form of treatment that will give results and at the same time keep the horse at work. Among such cases are spavin, ring-bone, side-bone, curb, thoroughpin and badly sprained tendons.

There is on the market a product that can usually be relied upon

in such circumstances. This is that preparation known as "M. A. C." manufactured by Carter-Luff Chemical Co., of Hudson, N. Y.

The preparation is, of course, much more beneficial if the horse is not worked, and is usually as satisfactory as actual cautery, having at the same time the additional advantage of not leaving any scar.

This firm has such faith in the efficacy of this preparation that they say: "If M. A. C. fails to remove lameness on a fairly selected case, we will replace medicine used on that particular case."

M. A. C. is sold only to veterinarians. We have found it very satisfactory.

Many practitioners have more than once expressed a desire for a

good **liquid** blister. There are so many cases in which a liquid blister could be used with satisfaction. The ordinary grease blisters are filthy, and they must be very thoroughly applied in order to get results. In some cases this result is too severe and too prolonged; its action can not be controlled.

There is now on the market a perfect liquid blister that overcomes all the disagreeable features of greasy blisters and has in addition several good features of its own.

This is the "Liquor Vesicans" sold by Detroit Veterinary Instrument & Supply Co., of Detroit, Mich.

It can be safely left with the client, to be applied with a small

brush until the desired effect is obtained. Any degree of vesication can be attained, from a very mild counter-irritation to a very pronounced blistering effect. It does not destroy the hair follicles and leaves no marks.

It supplies a long-felt want in veterinary therapeutics and once used will become a staple article with the practitioner.

"Liquor Vesicans" is one of those articles that soon makes its own reputation; the veterinarian's clients soon recognize the good features of it, and they do not object to using it, as they frequently do with greasy blisters. When "Liquor Vesicans" becomes thoroughly introduced among practitioners, greasy blisters will be permanently discarded.

Iodine in a non-irritating form for topical application is one of the achievements of modern chemistry. Menley & James, Ltd., of 168 Duane street, New York, offer for veterinary use a preparation called "Iodex" that stands in a place by itself among iodine-containing medicaments. Iodex has given us satisfactory results in such conditions as goiter, fibrous tumefactions, chronic exostoses of the various articulations, and in such acute, painful conditions as periostitis. Aside from the good results that come from applications of Iodex in these conditions its particular advantages are that it is positively non-irritating, it does not stain, and it can be applied ad libitum. Once the practitioner makes the acquaintance of Iodex he finds it impossible to

practice without it. It is appropriate in so many cases in which no other preparation would do.

Try it, Doctor!

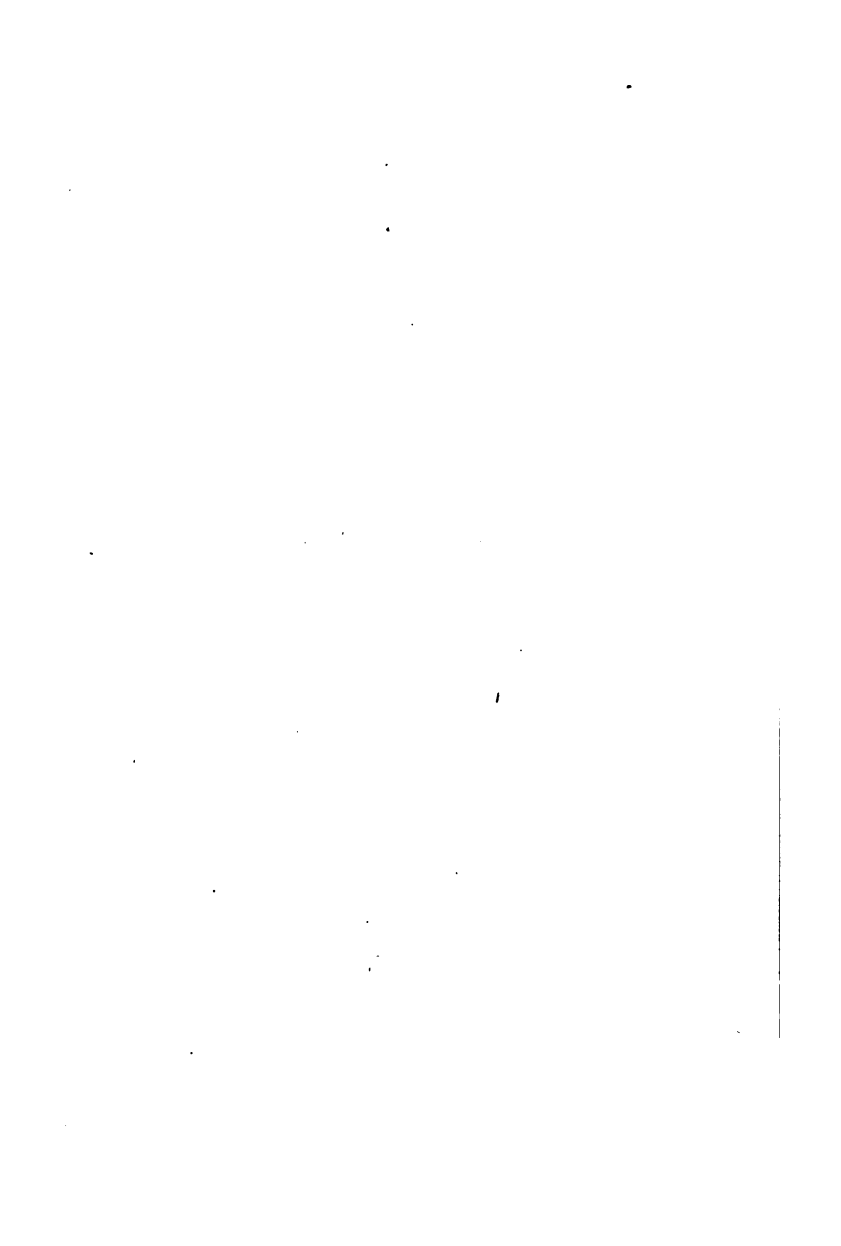
It behooves the practising veterinarian to exercise judgment in the selection of a source of supply for hog cholera serum. While most of the vendors of serum today make good serum, many of them do not co-operate with the practitioner in an ethical manner; they make serum, and they sell it to whoever may buy.

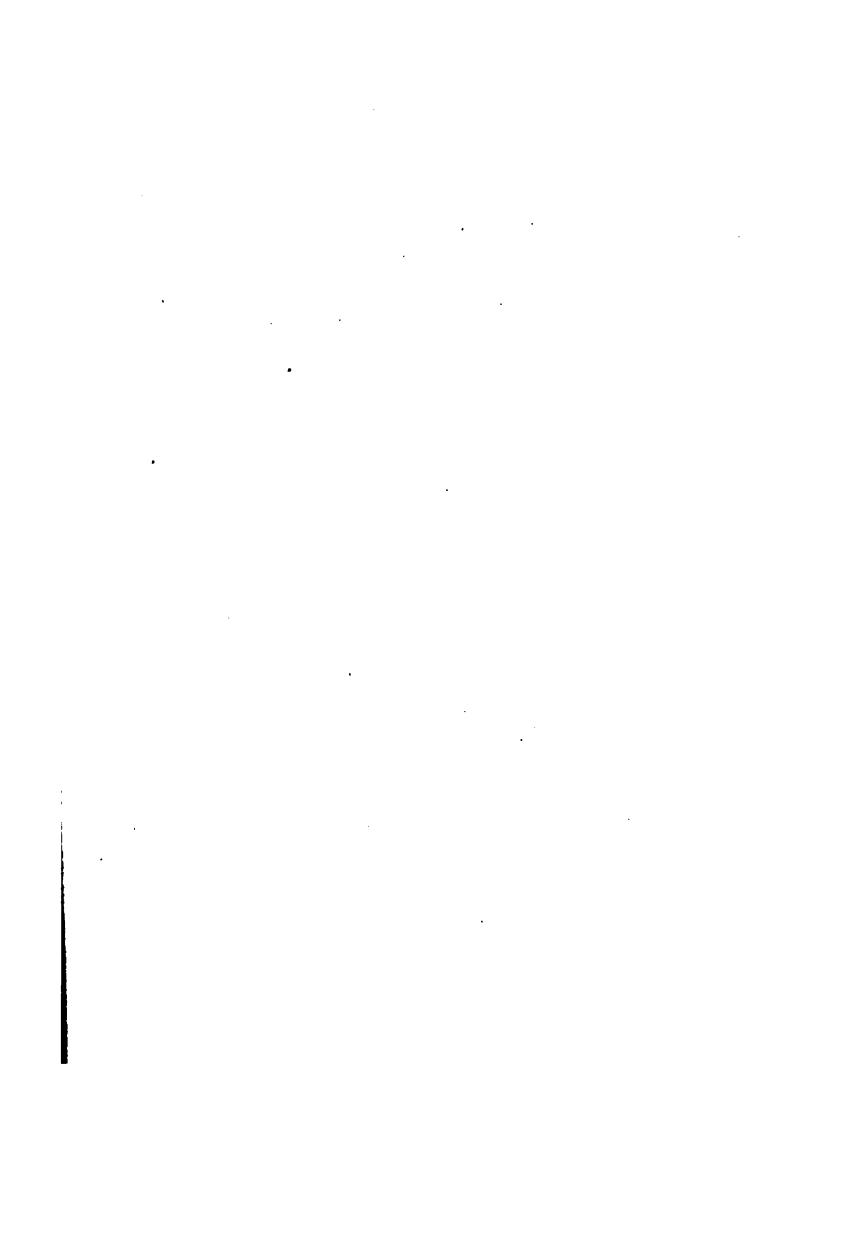
The application of anti-hog cholera serum is a procedure requiring a knowledge of certain bacteriologic and surgical principles, and the veterinarian alone is capable of applying this knowledge.

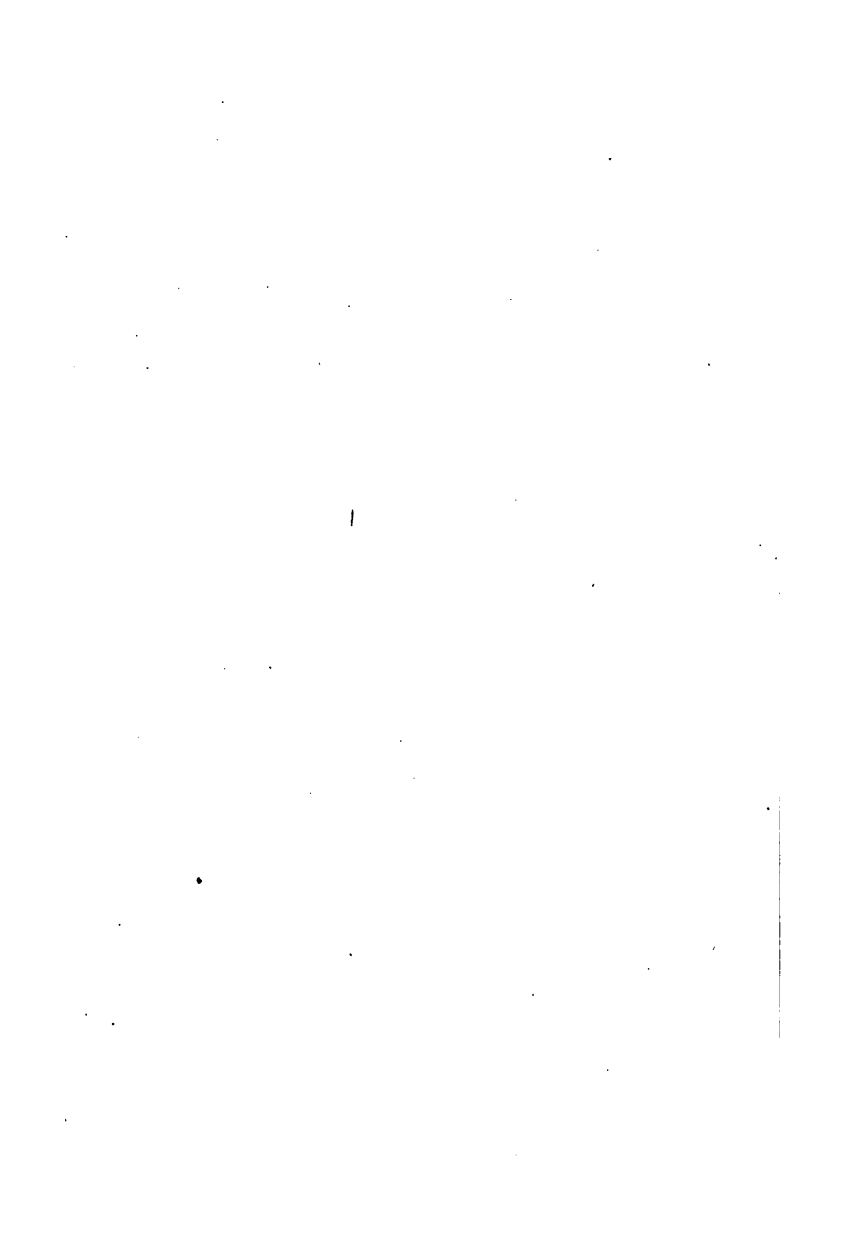
So far as we have been able to learn there is one serum plant in existence that absolutely protects the veterinarian. This is Pitman-Moore Co., of Indianapolis, and, by the way, probably also the most extensively modernly equipped plant in America. This firm has without question done more to make the handling of hog-cholera by means of serum a strictly veterinary procedure, than could reasonably be expected of any commercial plant; their efforts satisfactorily offset the bad effects of the promiscuous delivery of serum to the laity by others.

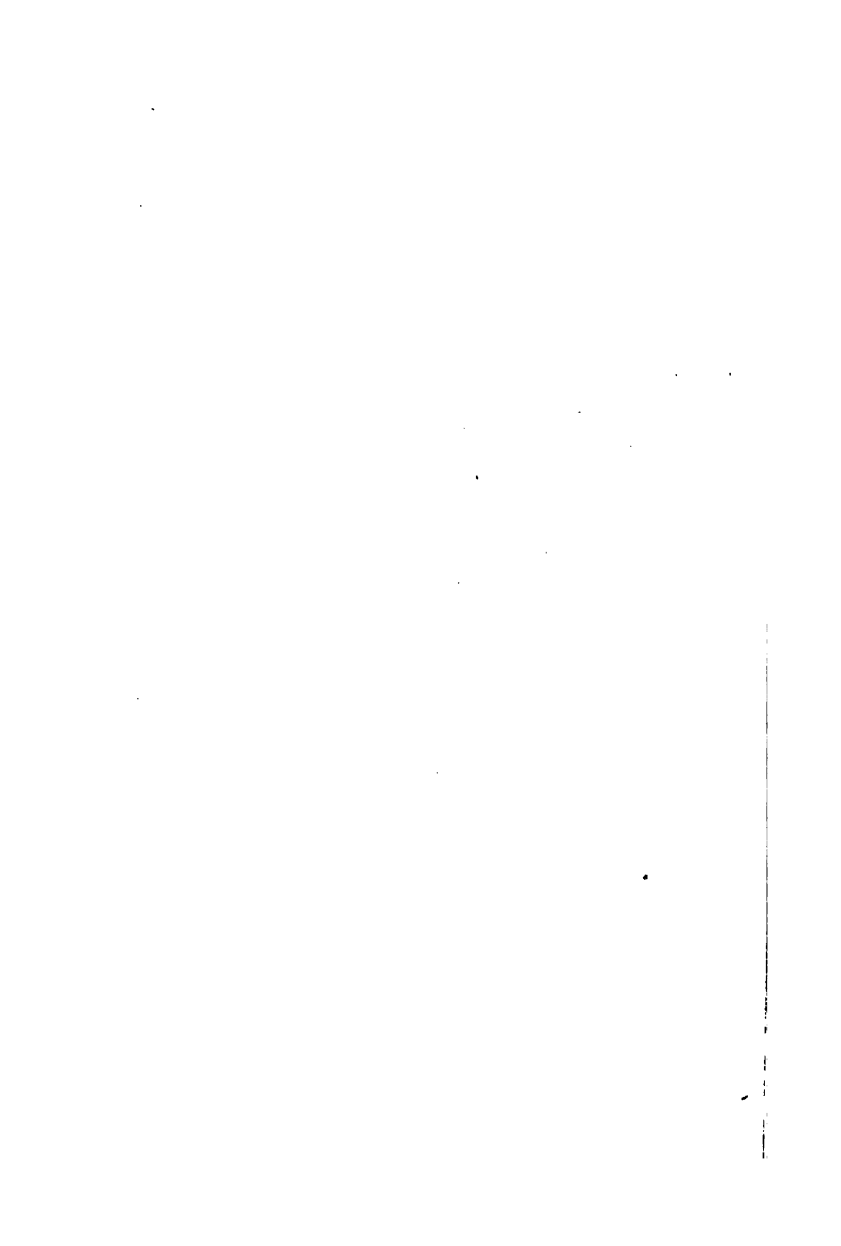
On top of this Pitman-Moore anti-hog cholera serum has, because of its potency and reliability, become the standard by which serums are known among prac-

tioners. The doctor who wants the best serum, from an ethical firm, and out of a modern serum plant can only use Pitman-Moore product.











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